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The Irish Plumber and Heating Contractor, September 1963 (complete issue)

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THE IRISH PLUMBER & HEATING CONTRACTOR



**MRS
1970
KNOWS WHAT
SHE WANTS**

And she knows just where to get it. Because the hard hitting advertising which first sells her on the idea of installing Shell and BP Housewarming also tells her of the superb service offered by her local Appointed Installer. The special Shell and BP Appointed Installer's sign is prominently featured in each advertisement to help her remember it. There are hundreds of Mrs. 1970's. All looking for the Irish Shell and BP Limited Appointed Installer's sign — the sign which they know means prompt efficient service. Hundred's of Mrs. 1970's — hundreds of systems to install and service. It's obviously very good business to give Mrs. 1970 what she wants!

SHELL AND BP HOUSEWARMING

THE ORIGINAL SCHEME FOR OIL-FIRED CENTRAL HEATING IN THE HOME

IRISH SHELL AND BP LIMITED
SHELL-BP HOUSE,
13-16 FLEET ST., DUBLIN 2.





Room at the Top—

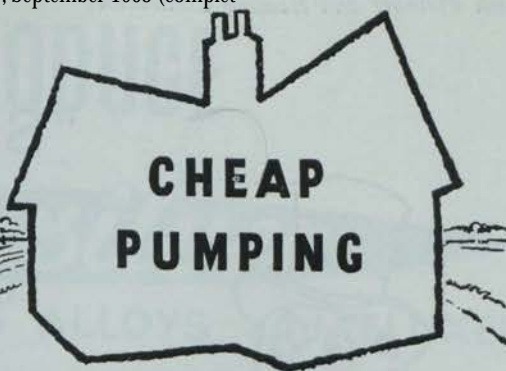
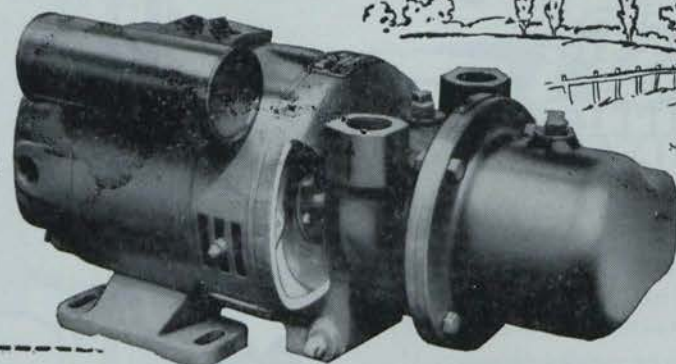
for galvanized tanks
with a good name
behind them :

HAMMOND LANE have years of
experience in making galvanized tanks
and copper cylinders—your guarantee
of quality ! All sizes and capacities
now available from stock.

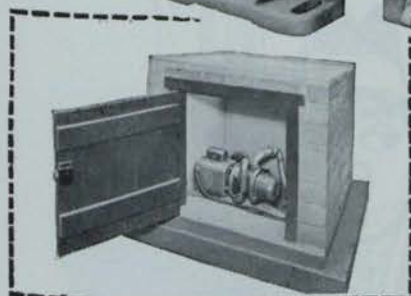
**Hammond
Lane
Industries Ltd.,**

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Phone 75861 (9 lines).

a MUST in rural areas



The MII Mono Pump will provide 165 gallons of water for less than a $\frac{1}{2}$ d. in power cost—sufficient water for two days for the average household. And it is self-priming with a 25 feet suction lift.



- It can be neatly tucked away in the garden—or it is silent in operation for indoor installation.
- It can also be used for pumping supernatant water from cess-pools.
- No oiling or greasing required.

Attractive terms to dealers

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MONO
pump

MONO PUMPS LIMITED, 31b CENTRAL HOTEL CHAMBERS, 7/9 DAME COURT, DUBLIN
Telephone Number: Dublin 70843.

MP270/L9614



418 PATTERN RATCHET DIESTOCK

Better threads, easier cutting, and quick and simple die and guide changing are the attractive features of this Chatwin product. The 418 Pattern Ratchet Diestock and die must satisfy the need for a tool which makes pipe thread cutting economical. Dies are available for the standard range of B.S.P. threads and alternatively, to Whitworth, U.S. standard, and Unified, within capacity of stock.



Ample Strength for the TOUGHEST JOB



STILLSON PATTERN PIPE WRENCHES

Heat treatment of the handle and jaw gives correct degree of hardness and prevents bending and breakages. Sturdy, light in weight and easy to handle, these wrenches are guaranteed against defects in material and workmanship.

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Telephone: Edgbaston 3521-3

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"Still living in the thirties, Dad?"



Look, the way to make money in plumbing is to cut your costs of materials. Right? And cut your labour-time. Right?

RIGHT! It's easy. Turn to the Wavin system and forget all other forms of piping. Why?

YOU SAVE ON MATERIAL— You can buy Wavin hard PVC Pipe for as little as 2½d a foot.

YOU SAVE ON TIME— Wavin is easy to transport and handle. It can be joined—permanently—in seconds.

YOU HAVE A COMPLETE RANGE— Wavin is a complete system. Your stockist carries everything a plumber needs for any job.

YOU SAVE YOURSELF TROUBLE— All the modern Plumber needs is a hacksaw and a tin of cement. In short, for a water or chemical plumbing job, Wavin is the cleanest, quickest, neatest, most convenient money-earner. Quote on Wavin!



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WAVIN PIPES LIMITED (Head Office and Works) BALBRIGGAN. Telephone 212260.

Also at London, Liverpool, Lisburn.

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Flowsilver

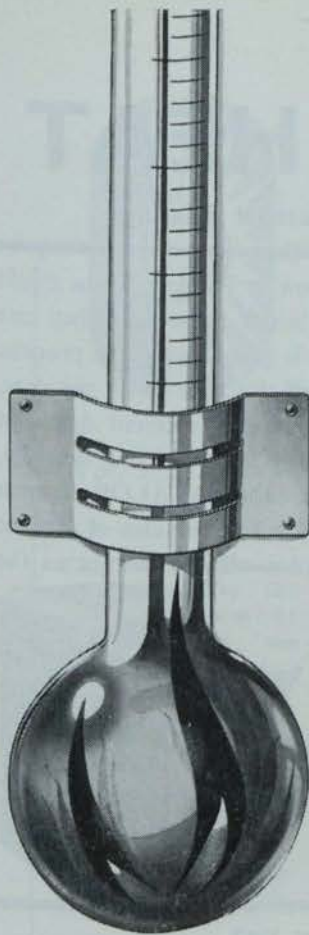
BRAZING ALLOYS and FLUXES

With the introduction of New FLOWSILVER brazing alloys and fluxes, Fry's now offer the most comprehensive range of solders available.

If you silver braze—6 types of New FLOWSILVER brazing alloys plus matching fluxes ensure effective brazing. Special alloys and fluxes are provided for stainless steel.

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Full information on Fry's New FLOWSILVER brazing alloys and fluxes on request.



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with a soldering service for every temperature

Fry's Metal Foundries Ltd., 197 Pearse Street, Dublin. Tel. Dublin 70336.
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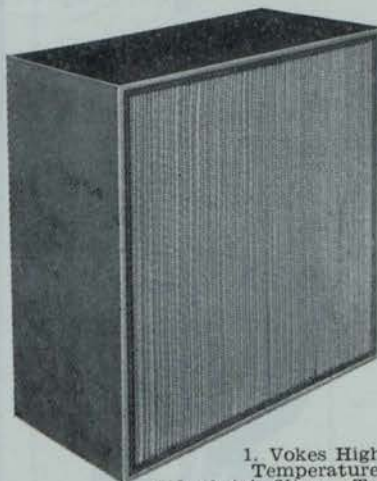
MR/63/5

Where Purity Is Essential . . . Install

VOKES

'ABSOLUTE'

AIR FILTERS



1. Vokes High Temperature 'Absolute' filter. To withstand temperatures up to 1000° F.

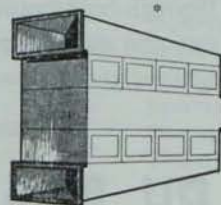
2. Vokes 'UNIPAK' system, available in many different sizes for a wide range of air volumes.

3. The Methylene blue test rig at Henley Park, headquarters of the Vokes Group.

Vokes 'Absolute' air filters were developed for use in nuclear energy applications where inefficient filtration could lead to hazardous conditions for both equipment and personnel. Their outstanding performance (99.95% efficiency against particles in the 0.1-0.5 micron range) has quickly led to their adoption by laboratories, food processing plants, etc.—in fact, wherever a need for super efficiency filtration exists. For further information please write for catalogue HJ.

Variants of the 'Absolute' filter include High Temperature High Humidity, and Acid Resistant types—all with a guaranteed efficiency of 99.99% against sub-micronic particles. 'Absolute' filters are available as canister types using an all welded canister assembled between headers, and Vokes can also supply 'UNIPAK' systems for housing several panels in easily-serviced, space-saving units.

Vokes 'Absolute' filters are tested in accordance with BSS.2831 on a methylene blue test rig. Every filter is subjected to a stream of air containing particles of methylene blue 'dust' ranging in size from 0.1 to 0.5 microns, and rejected if its efficiency is less than 99.95%. Vokes is the only British company to guarantee minimum performance figures in this way and Vokes filters are therefore widely used in all applications which require scientific filtration.



Comprehensive literature covering all Vokes filters is available on request from the Sole Agents:

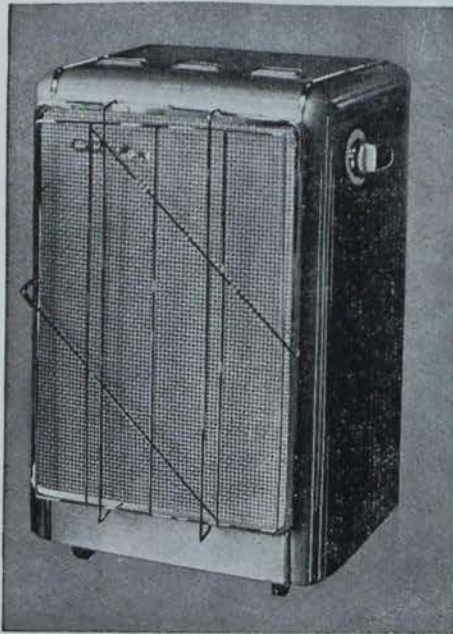
THE LEINSTER ENGINEERING CO. LTD.

VOKES

The Irish Plumber and Heating Contractor.

THIS IS FLAMELESS HEAT

CATALOR LIQUID-GAS thermo-reactor for domestic, office or industrial heating.

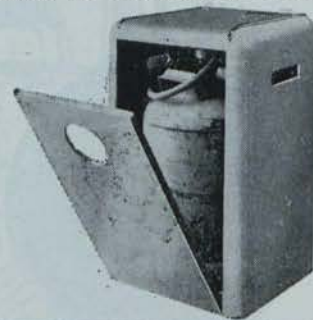


"Catalytic Heating"—What It Means And How It Works. When liquid propane or butane meet a pre-heated platinised "catalyst" they are oxydised into carbon dioxide and steam; heat is generated in the process, and the (patent) "CATALOR" heater gives off this heat as 46 per cent. radiation and 54 per cent. convection. The heating element does not ignite or glow; it simply pours out penetrating heat which is healthy, clean and SAFE. Even a naked flame held near the CATALOR element is extinguished. The larger models need only a few minutes of electric pre-heating; then an automatic cut-out switches off the current as the element grows hotter.

Left: Model 6035 CATALOR
'Housemaster' Domestic Heater, £25-12-0.

NO PIPES OR WIRES

CATALOR Heater is self-contained,
holds butane or propane bottle, runs
on smooth castors.



W. & L. CROWE LTD.

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Dublin, 3.
Phone 43101.

Sole Distributors of CATALOR (Patent) Liquid-Gas Heaters throughout Ireland.

A NEW
PRODUCT

"THE DUBOIS PLASTIC TRAP" (Regd.)

A NEW
PRODUCT

Provn. Pat. No. 38070/60.

1½" and 1¼" diam. x 1½" seal "S" and "P" BLACK HIGH DENSITY
PLASTIC TRAPS



Orthodox Shape!
Smooth Bore Tubular construction.
Outlets can be turned through 220°.
A two-piece trap at a one-piece price.
Outlet on 'S' trap turned to inlet forms
a through-bore bottle trap.
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Light weight = lower transportation costs.



Manufactured by:—

THE DU BOIS COMPANY LIMITED
15 Britannia Street, London, W.C.1

Telephone No.: TRminus 6624-5.

Telegraphic Address: "Bleitrap, London."



Vol. 3. No. 6

The only publication in Ireland for the craftsman plumber and contractor, the heating, ventilation, insulation, air conditioning and refrigeration engineer and contractor, the electrical contractor, supplier, manufacturer and wholesaler of fittings and equipment for the trades.

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SEPTEMBER, 1963.



THE IRISH PLUMBER & HEATING CONTRACTOR

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The Irish Plumber and Heating Contractor.

MIDLAND'S NEW THERMODYNAMIC STEAM TRAP

CONTINUING their established policy of development to meet the changing needs of modern steam trapping, Midland Industries Limited, Dean's Road, Wolverhampton, introduce a new model thermodynamic steam trap. The 400 MTM MIL Thermatic trap and strainer unit has been re-designed to give increased efficiency under more arduous conditions, including superheated steam up to 600°F.

Operating on the latest thermodynamic principle, the new MIL 400 MTM steam trap shares with the 250 MTM range such features as minimum trap maintenance, all internal trim of stainless steel and renewable en-situ, only one moving component and ample straining capacity.

Available ex-stock, it is suitable for pressures ranging from 5—400 p.s.i., sizes $\frac{1}{2}$ " and $\frac{3}{4}$ " screwed BSPT or for socket welding on request. Bodies are of high grade carbon steel or stainless steel to choice.

Existing prices are not affected. The MIL 250 MTM range of thermodynamic steam traps continues unchanged.

Heat exchanger

K & B HEAT EXCHANGER, type S, coiled tubes type, is of an untraditional design, constructed exclusively of standardised components. The thermal efficiency being high, the unit requires comparatively little space. All piping is connected to the bottom plate. The bell-shaped cover is easily removable without disturbing any of the piping connections. The heating elements consist of coiled copper tubing, connected to inlet and outlet nozzles through manifolds. The heating surface is constructed of one or more elements, assembled on the bottom plate.

Irish agents: Patton Engineering Enterprises, 30 St. Anne's Road, Drumcondra, Dublin, 9.

Grit arrester

THE CYCLONE patent grit arrester for boiler plants will separate and collect the fire grit from the flue gases before they are discharged by the fan to the chimney and eliminate any nuisance in the neighbourhood. The

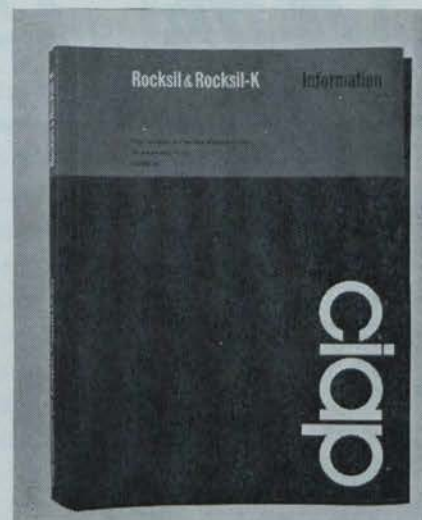
TRADE

TOPICS

New Information Brochure from Cape Insulation and Asbestos

CAPE INSULATION AND ASBESTOS PRODUCTS LIMITED have recently produced this attractively-bound Information Brochure for their Rocksil and Rocksil-K products used for thermal insulation. The brochure encloses both data sheets and price lists clearly and neatly designed presenting all the information necessary for the designer, engineer or contractor in an acceptable manner.

The cover is embellished with the Company's registered symbol in the form of three pipe sections and three flat blocks arranged vertically and forming the initial letters of the Company's name. Available from Irish agents: M. A. Boylan Limited.



Cyclone P.B. heavy pattern induced fan is used in conjunction with this arrester.

If properly applied the arrester adds very little resistance to the flow of the flue gases.

Irish agents: Heatovent Supply Co., 5 Upper Fitzwilliam St., Dublin 2.

New Crane boiler

CRANE has introduced a new oil burning boiler—the Carlton Oiltherm. There are four sizes in the range, 172,000 to 256,000 B.t.u. per hour output.

A unique design combination of boiler body, burner and combustion chamber has achieved ratings which are twice as high as conventional boilers of comparable size. This remarkable reduction in boiler size allows factory assembly and testing of all boiler sections before despatch.

The pressure jet burner is pre-adjusted and controls are pre-wired, ready for connection. The combustion chamber is pre-cast and the fitting procedure is extremely simple. A water way base makes floor refractories and other insulation unnecessary.

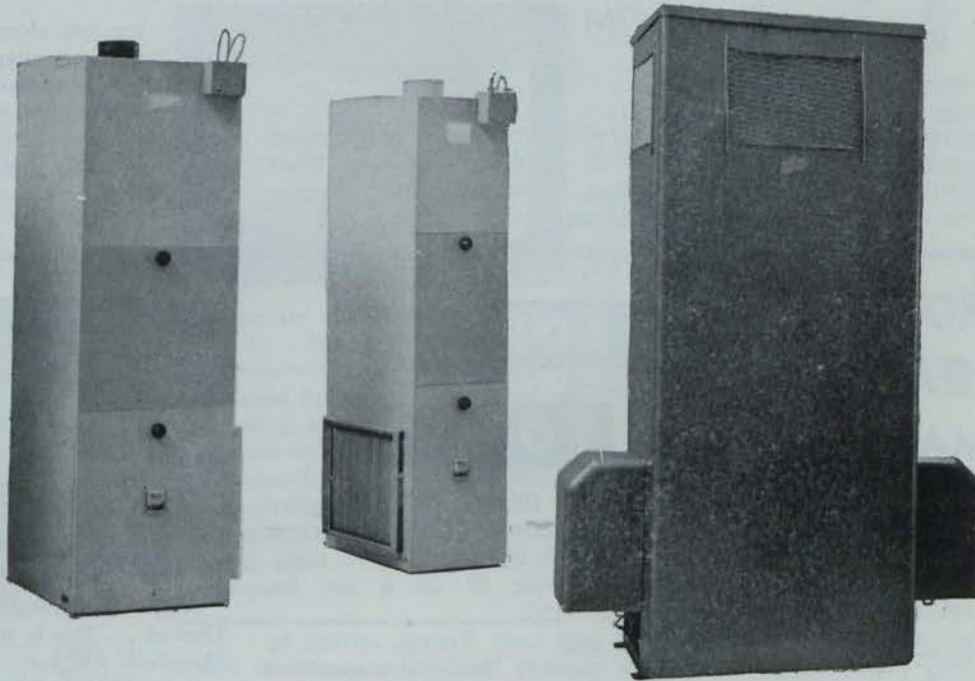
RECORD SPACE AT HEVAC

EXHIBITORS at the 1964 International Heating, Ventilating and Air Conditioning Exhibition (HEVAC) will ballot for a record amount of space, more than 80,000 square feet. The ballot will be held at the Connaught Rooms, London, on Tuesday, October 22.

The 1964 HEVAC will, for the first time, be held in Britain's premier exhibition hall, the Grand Hall, Olympia, London, from April 15 to 24, at a time when there is no comparative or allied exhibition held in Europe.

The International Heating, Ventilating and Air Conditioning Exhibition is organised by Industrial Exhibitions Limited, 9 Argyll St., London, W.1.

Messrs. McCandless & Barton, consulting engineers, 6, Murray St., Belfast 1, announce the opening of a Dublin office at 70, Lower Baggot Street, Dublin, 2. Telephone: Dublin 63958.



**GET YOUR PERIMETER WARM AIR
CENTRAL HEATING FROM**

W. J. THOMPSON LTD.



APPOINTED INSTALLER FOR IRISH SHELL AND BP LIMITED

MALLOW—PHONE 21

Estimates Free

AS a further stage in the development of this Journal the title of the magazine will be changed with the January, 1964, issue to "**THE IRISH PLUMBER & HEATING ENGINEER.**"

* * *

Commencing with this issue also we shall be including a monthly supplement devoted exclusively to industrial heating and ventilating under the title of "Industrial Heating and Ventilating in Ireland." The circulation of the

CHANGE OF TITLE AND WIDER COVERAGE FROM JANUARY 1964

Journal will, accordingly, be increased to include all Consulting and Plant Engineers, Architects and Building Contractors throughout the country.

The existing Journal will continue to deal with Domestic Heating and Plumbing news, product information and technical articles by specialist contributors.

If you are not already a subscriber to the Journal we suggest you take out a subscription without delay. The annual subscription is 21/- post free, and includes the Directory of Manufacturers, Agents, Representatives and Distributors, published in June each year.

LORD ROBENS SAYS COAL PRICE MAY DROP

THE price of British coal is likely to drop on the Irish market by as much as £2 a ton, if the plans of the National Coal Board materialise. In Dublin, Lord Alfred Robens, chairman of the Board, said that the Irish market was a very important one to them.

Lord Robens came to Dublin on the "invitation of the trade generally."

"We hope to be able to offer our coal at prices comparative to any of our competitors, including American, and to give top quality.

"We hope to have meetings with representatives of your port authorities and also the fuel importers with a view to the establishment of better facilities."

He said that during the general shortage of coal in Britain a lot of markets were lost here. But the Board was now in the strong position of being able to supply top quality coal and "we value our trade with Ireland rather more than with any other country.

"We intend to compete with any other firms who are supplying coal. If our plans materialise it will mean the streamlining of our products from the pit heads through railways and ports which, in turn, will mean better and more modern methods of handling coal at ports. We hope that everything can be worked out between your port authorities and the importers and ourselves."

In the period from January to May this year, this country imported 636,419 tons of coal valued at

TRADE TOPICS

£3,422,000. Of this, Britain supplied 274,283 tons worth £1,622,000. British coal is sold in Dublin at £11 9s. a ton, compared with £9 2s. a ton for American coal.

Lord and Lady Robens arrived by private plane in Dublin and were met by Mr. Thomas Sheridan, president of the Irish Coal Importers' Association, and Mr. Thomas Firth of the National Coal Board.

He also visited one of Bord na Mona's largest milled peat bogs at Derrygreenagh, near Rochfortbridge, Co. Offaly, and also the briquette factory at Croghan.

A leading member of the trade in Dublin emphasised that Lord Robens could only be talking in the long term. "It will be quite some time yet before N.C.B. streamlining will allow for substantial price cuts."

Oil Pumps from Plenty

OIL PUMPS types "200," "500," and "1100" made by Plenty & Son Ltd., are of the Positive Displacement Variable Delivery type. They can be mounted either horizontally or vertically. The output can be varied by means of the control wheel, from zero to full flow, a graduated indicator being provided for this purpose.

The provision of variable delivery and a pressure regulating valve enables the pumping unit to be set for optimum circulating and heating con-



Finger tip revolution from Cisterns Limited . . This is their Super Viking Monoflush with turbo-matic action.

Designed by John Barnes, F.S.I.A., the leading industrial designer, in collaboration with the Technical Designers at Cisterns Limited, the Super Viking Monoflush is unique in many ways. It is compact, durable, colourful, silent flushing, rapid filling and attractive in appearance.

ditions to suit the fuel and burner characteristics, whilst economising in power input. The variable capacity feature enables oil burning equipment manufacturers to use standard units to cover a wide range of burners and operating conditions.

These pumps are also used extensively for fuel transfer pressure lubrication and circulation duties.

Mayo tender

MAYO County Council have invited tenders in connection with the County Hospital (Castlebar) operating theatre. Heating and ventilating contractors are invited to tender and contract documents may be obtained (5 guineas deposit) from E. R. Ryan, M.E., B.Sc., M.I.C.E.I., 1 Mountpellier Terrace, Galway. Latest tender receipt date: noon October 8.



StarStream

Send today for Brochure W.447



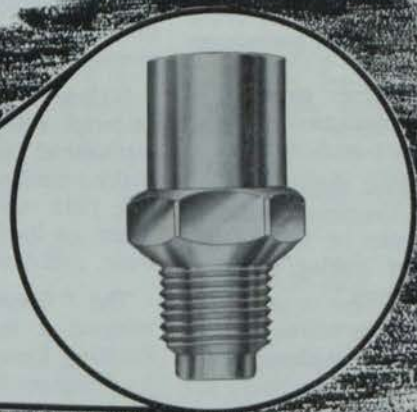
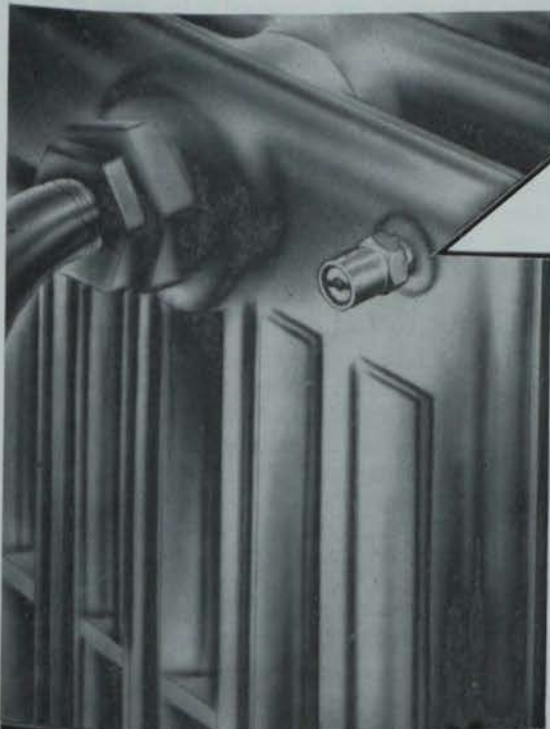
sink fittings by **Sperryn**



SPERRYN & COMPANY LIMITED • MOORSOM ST. WORKS • BIRMINGHAM 6

Phone ASTon Cross 4011 (6 lines)

Agents for the Republic of Ireland: C. B. SHERIDAN, 10 Herbert Place, Dublin, 2. Telephone: 66283



THE MIL AIR ELIMINATOR REMOVES AIR FROM HOT WATER SYSTEMS

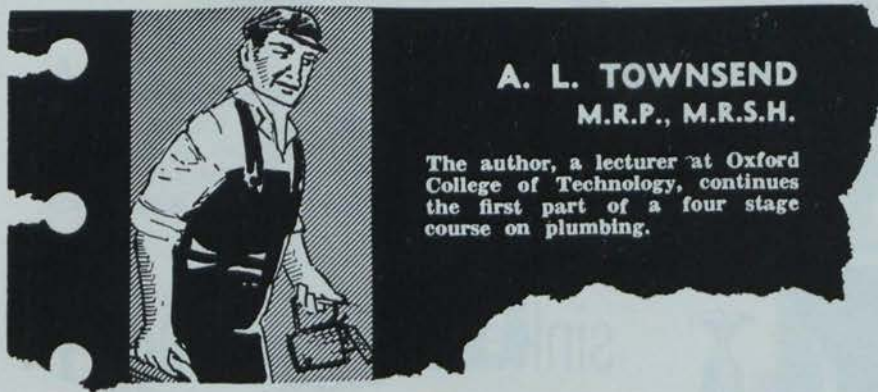
The removal of air from hot water heating systems, either by installing air vent pipes or fitting mechanically operated automatic air eliminators, can be a costly job. The MIL air eliminator does this work very well at small cost and is suitable for low pressure hot water systems up to 80ft. head.

MIDLAND INDUSTRIES LIMITED

HEATH TOWN WORKS

WOLVERHAMPTON

Tel: 23901



DOMESTIC WATER SUPPLY (Cont.)

THIS MONTH: BALL VALVES

BALL valves are designed to control the entry of water into a cistern, closing off the supply when the water level in the cistern has reached a pre-determined level.

Ball valves are classified as:—

- (a) High pressure valves capable of closing against pressures of 200 lbs. per square inch.
- (b) Medium pressure valves for pressures of up to 100 lbs. per square inch.
- (c) Low pressure valves capable of closing against pressures of up to 40 lbs. per square inch.

All classes of valve should be capable, while held in the closed position, of resisting a pressure of 300 lbs. per square inch without leaking or showing signs of "sweating."

There are many variations of the **Portsmouth**, or **horizontal plunger** ball-valve, but the best is undoubtedly the Portsmouth B.S. 1212.

Advantage

The B.S. 1212 has the advantage of being easily detachable so that it can be got out from the cistern, replaced, adjusted and tested to see if it is watertight and if the shut-off water level is correct. It also has devices for adjusting the water level, which cut out the need for strong man tactics in bending the ball valve float arm.

It has renewable seatings. If a seating orifice becomes defective, it can be replaced easily and at little cost so that the valve remains serviceable.

These renewable seatings are also interchangeable. This means that the small holed orifice used for high pressure supplies can be changed for an orifice with a larger hole if the valve is needed for a medium or low pressure pipeline. Thus, with a few ball-valve bodies and a supply of seatings with various sized holes, a ballvalve can be quickly adapted to suit high pressure, medium pressure, or low pressure services.

Nylon—a chemically inert plastic material with a high resistance to mechanical wear—is now used to make interchangeable seatings for the B.S. 1212 valve in districts where the water, or its flow, tend to corrode, or wear, metal seatings.

The "**Garston**" ballvalve was developed at the British Government's Building Research Station at Garston. Its designers set themselves to the task of producing a ballvalve which would be free of the corrosive troubles already mentioned, and free of the nuisance of lime deposits in temporary "hard" water districts. These deposits of "furr" tend to interfere with the proper working of the valve and sometimes they make it stick in the open or closed position.

Our illustration shows clearly how this has been simply yet successfully done. Notice (a) that no water touches any working or moving part. (b) The simple and convenient water level adjustment device, and (c) the specially large, shaped inlet chamber which breaks the speed with which the water enters, and reduces mechanical

wear on the seating orifice, which, incidentally, is again renewable.

Re-washing is easily and simply done by unscrewing the large nut which secures the ballvalve body to the inlet, which is in turn fixed to the cistern. You will notice that in this respect the "Garston" ballvalve resembles the B.S. 1212 ballvalve.

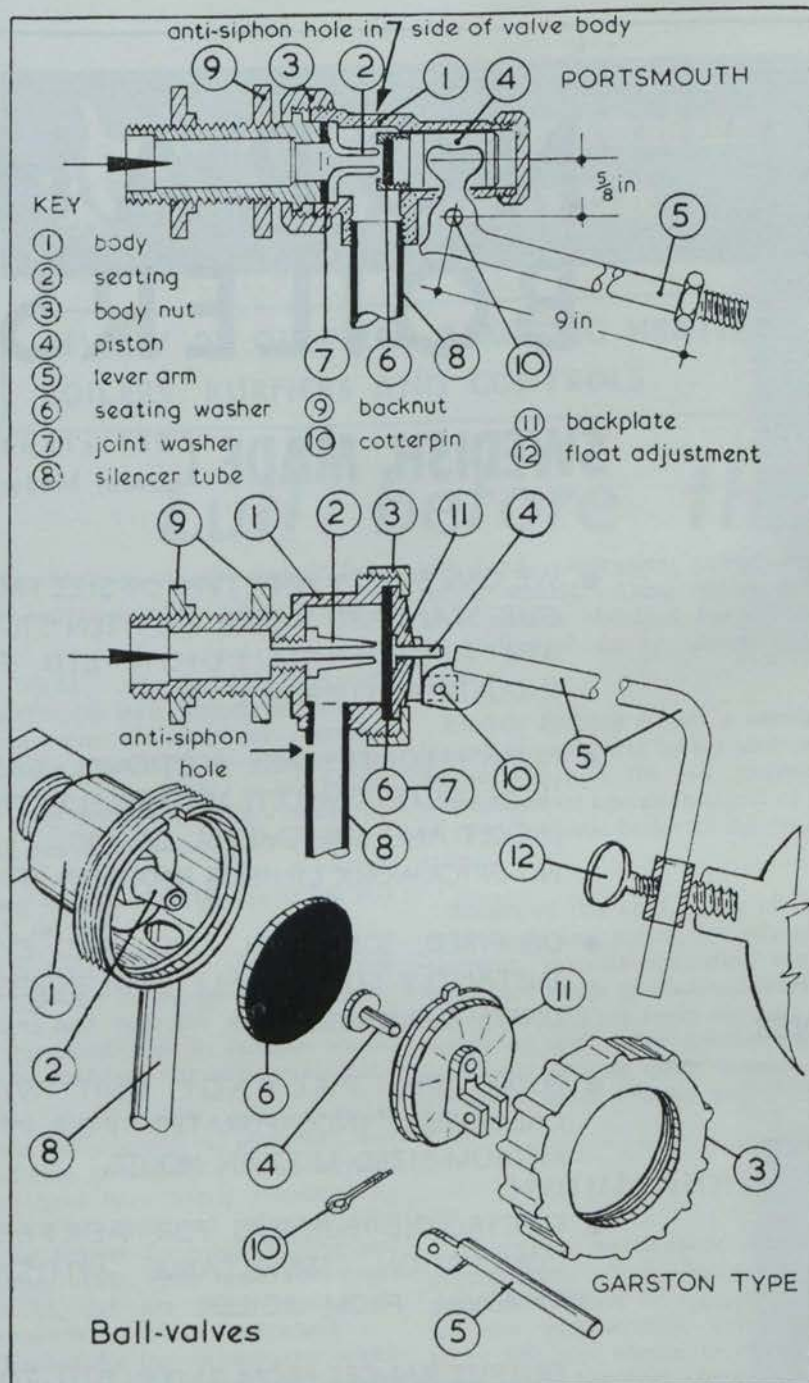
All ballvalve parts must be of non-corrosive material. Generally, the B.S. 1212 valve is a hot pressing which is afterwards drilled, threaded and dressed to the dimensions laid down in the Standard. Its lever arm and cotter pin are of drawn or extruded brass rod. The seating washer should be of good quality rubber $\frac{1}{8}$ " thick.

Reduce noise

The Garston ballvalve is obtainable as a brass pressing or in plastic. In either case the lever arm and cotter pin will be of similar material to that used in the "1212" ballvalve.

Silencer tubes are commonly fitted to ballvalves to reduce the noise of inrushing water. A thread is provided inside the ballvalve outlet to receive the short length of tube which forms the silencer tube and conveys the inflow water to the bottom of the cistern. In this way the noise of splashing water is avoided, and during most of the filling action the outlet of the tube is under water.

Under certain circumstances, when, for example, a street main is temporarily closed for draining down, a "backpull" on the service could oc-



from previous page

cur and polluted water could be drawn into the service pipe and main. Precautions against this form of "back siphonage" must be provided by air holes in the outlet of a ball-valve or silencer tube, and these air vent holes must be above the working water level of the cistern.

In the B.S. 1212 ballvalve the air hole is in the side of the ballvalve body. In the Garston ballvalve no provision for an air vent is made, and if silencer tubes are used with this type of valve they must have an anti-

siphon hole drilled in them above the level of the water in the cistern when it is full.

Strange whistling noises have been known to come from the air hole of silencer tubes, but if the hole is arranged so that it faces the nearest wall of the cistern (as shown in Fig. 56) this noise is avoided.

Floats, which provide the initial closing effort on all ballvalves, are spherical in shape and are quite commonly made of copper. Other materials for floats include polythene spherical floats, expanded ebonite, and expanded vinyl-chloride.

IMPRESSIVE RANGE FROM IRCO TRADING

IRCO TRADING Company Limited, with headquarters at 9 Eden Quay, Dublin, are the sole agents in the Republic for Huskvarna Vapenfabriks A.B. of Huskvarna, one of Sweden's leading manufacturers of central heating boilers.

Here are details of the range now available through Irco Trading Company:—

Boilers: Through various models ranging from 57,000 up to 10 million B.t.u.'s/hour in one unit, or with higher capacities if used in batteries. All boilers are cast-iron sectional boilers with built-in economisers in the form of an advanced design convection part. This ensures that whatever fuel is burnt, it is used to its maximum advantage.

If used with the Electro-oil oilburner, manufactured by Messrs. B. Palm & Co. of Norrköping, Sweden, for whom this firm is also the sole agent in Ireland, it is not necessary to instal a refractory lining in the combustion chamber of the boiler, as these burners are fitted with the "Tyrblair" air turbulator, patented in many countries, with its external graduated scale, which makes it possible to adjust the jet-flame shape to reach highest combustion degree and minimum oil consumption.

The electro-oil burners range, through various models, from 35,000 to 1,250,000 B.t.u.'s/hr. for burning oil of 35 secs., and from 320,000 to 3,100,000 B.t.u.'s/hr. for burning heavier oil of 20 secs. This heavier oil burner, type TL, can be fitted with the so-called "high-low" system. The simple construction is a remarkable feature of this TL type burner. No special booster pump or pre-heater is necessary.

The complete range of burners is of attractive Scandinavian finish, cleverly constructed. It is, for example, not necessary to withdraw the burner with draught-tube from the boiler to service the nozzle or ignition electrodes, as the complete inner nozzle assembly with electrodes can be withdrawn from the rear of the unit leaving the burner unit in its place.

Special attention should be drawn to the "Turbo-Jet" oil burner. This burner is specially designed for quiet running. Both primary and secondary air are introduced in the combustion chamber by twin-fan airblower and these can be independently controlled, giving high quality combustion.

Because no bricklining is required in these boilers, the manufacturers have designed all their boilers in such a way that they can be used for dual-purpose firing (solid fuel and oil) with the change-over from one fuel to the other to be accomplished in a matter of minutes. To facilitate this they have designed for the small and medium sized boiler the "Sesam" dual firing doors. However, with the Norah 1600, a package unit with an output of 80,000 B.t.u.'s/hr., the conversion is only a matter of seconds. This unit is only supplied in dual-firing version.



NORAH 400



ELECTRO-OIL BURNER



INDUSTRIAL BOILER

NORAH BOILERS

SWEDISH MADE (Efficient,
Clean, Modern)

- WE CAN SUPPLY ANY TYPE OR SIZE FROM OUR STANDARD RANGE BETWEEN 57,000 BTU AND 10 MILLION BTU FOR INDUSTRIAL PURPOSES.
- NORAH BOILERS ARE SECTIONAL CAST-IRON UNITS COMPLETE WITH INSULATING JACKET AND SHEETMETAL CASING. NO BRICKWORK LININGS REQUIRED.
- OIL-FIRED, SOLID-FUEL FIRED AND EVEN INSTANTLY CONVERTIBLE DUAL-PURPOSE UNITS AVAILABLE.
- 80,000 BTU PACKAGE UNIT WITH CALORIFIER INCORPORATED FOR THE MEDIUM-SIZED MODERN HOUSE.
- ELECTRO-OIL BURNERS FOR PERFECT COMBUSTION SERVICEABLE WITHOUT REMOVAL FROM BOILER.

OUTPUT RANGES FROM 21,000 BTU TO 3 MILLION BTU/HR. AVAILABLE ALSO FOR BURNING HEAVIER OIL WITHOUT NEED FOR SPECIAL BOOSTER PUMPS OR PRE-HEATERS, AND WITH AUTOMATIC "HIGH-LOW" SYSTEM.

Irish Agents: IRCO TRADING CO. LTD.
9, Eden Quay, Dublin, Eire. Telephone: 48277.



AN IRISH PLUMBER & HEATING CONTRACTOR SPECIAL SURVEY

REVIEW OF OIL-FIRED DOMESTIC HEATING BOILERS, BURNERS AND CONTROLS

Lull before the storm

*"The shouting and the tumult dies:
The captains and the Kings depart."*

So, it would appear in the "cold" war between the fuel concerns, at least judging by the reduced form of campaign literature dropping through my letter-box. However, it can be but a lull before the next onslaught. Very soon we shall see a hotting up of spearhead attacks on the vast public consumer potential with exhortations to use this fuel, or that.

Oil fired domestic equipment can be expected in the forefront of campaigns and with the many converts to this useful fuel, its generals are no doubt confident but not complacent.

Oil fired boilers offer compact power units, economic operation, and flexibility of control. These advantages have been wisely employed by owners of large and industrial type prime heaters for space heating and process work. The same advantages can be, and are being enjoyed, in thousands of homes everywhere.

Excited by the advantages which the oil fuels offer, boiler makers have set about re-designing equipment to meet the specific needs of oil fuel combustion.

Competition

As a result of this, and healthy competition between the various manufacturers, the domestic consumer can now have a boiler of the very latest and best technical design for high efficiency of operation coupled with pleasing aesthetic appearance and trouble-free working.

Vaporising pot type burners have been much improved through field

tests and experience gained from earlier models. These now seem to have become standard burner units for boilers of up to about 45,000 B.t.u.

Electric Ignition is now a common feature of vaporising burner units, and further enhances the all important convenience of operation aspect of the oil fired domestic boiler, in the smaller ratings.

Boilers of this kind, many of them surprisingly low priced, are offered in gleaming vitreous enamelled casings which are made to standard working top height. They easily slip into and match up with other kitchen equipment and provide clean, trouble-free service in space heating and D.H.W. supply.

Maintenance

Of course, maintenance is an important item. Such finely designed equipment cannot be expected to run for ever without some skilled attention. The wise contractor makes this clear to his potential client, pointing out that all boilers, regardless of fuel used, need some periodic maintenance, and that in most cases the oil-fired boiler inspection and servicing simply means a check-up by a trained service engineer to ensure that the boiler continues to provide its designed output in an efficient and economic manner.

If the oil-fired boiler is accepted, and eventually installed, it is a good plan to draw up some kind of servicing contract. In this way, not only is the client's interest safeguarded, but so also is the contractor's, since

he is thus assured that boiler burner defects due to neglected maintenance cannot arise and be wrongfully attributed to his installation work.

Servicing

The cost of domestic oil-fired boiler servicing has to be fairly faced. It may involve two service visits per year, or it may be only one. Much depends upon the type and age of the boiler and, of course, upon how much use it gets. Servicing fees vary but the "with it" contractor enrolls himself for a practical course either with one of the oil companies or with the boiler manufacturer whose products he prefers and installs as standard items, or both. Armed with the necessary technical knowledge and practical experience gained on such courses, the contractor can undertake the burner unit maintenance himself. He can then set his own economic price for the service and at the same time keep on good terms with his client—and this may well lead to increased goodwill and recommends to friends of his satisfied clients.

Pressure jet burner units are now commonly fitted on boilers of 50,000 B.t.u. and upward.

Noise levels have to be considered but the smaller units can be used in kitchens. Generally, however, it is always better, where space allows and forethought provides, to house the pressure jet boilers in a separate "boiler house" which may be externally entered but near the kitchen,

Continued overleaf

The Irish Plumber and Heating Contractor.

or entered off, the kitchen. Such "boiler rooms" not only defeat any possible noise increase but they provide space for the ancillary equipment such as circulators, hot store vessels, and so on. The whole "works" are thus neatly installed in one place and accessible for maintenance and repair without disturbance or interruption of any kitchen equipment or routine.

Oil-fired Boiler types and sizes are now so numerous and varied in style, ratings, and prices, that it becomes impossible to review them all and it would give a false impression to refer to but a few.

Sales competition affects styling, and prices. Both of these, in turn, affect the basic boiler design and operating efficiencies.

To the good

All this is to the good of the manufacturers, the trade, and the potential domestic oil-fired boiler user. In the light of past experience, manufacturers are giving careful attention to the design of heat transfer surfaces. Higher efficiencies result and these can markedly affect annual fuel

OIL FIRED BOILERS NUMEROUS, VARIED

from previous page

bills. Of course, improvements in design demand development, and development engineering costs money. However, as a general rule, this development cost is spread over a large output of manufacture and an economic selling price of boilers maintained.

International competition begins to ginger up that which is already keen nationally. Remember to check the assurance or, indeed, the availability of spare parts for boilers of foreign manufacture.

It is all very much a case of "you pay your money and you take your pick"—but the wise contractor gets to know the salient features of all the boilers presently on the market. He is then able to intelligently analyse these in the light of his clients' needs, and pocket, and by a process of elimination to reduce the choice from a vast, bewildering one to a very few.

Some contractors appear to strike it "lucky" and having initially used a boiler of good design, stick to that make for all subsequent jobs.

This is, of course, quite sound. It is wise not to change one's horses in mid-stream. Even so, it will pay to look around and examine the technical offerings, and prices, of other makes.

Loyalties

The contractor may well justify the present loyalties in the end. Alternatively, he may discover a better, and possibly more profitable line.

Manufacturers are justly proud of their wares. Prices are really competitive and if one boiler is priced very much higher than another of the same rating, then contractors may be sure that the more expensive one has something in design, material, or

BAXENDALE

—the name you have learned to depend upon

—INTRODUCE THE LATEST, MOST ECONOMICAL ADVANCE IN CENTRAL HEATING

"BEANCO" SOLID FUEL HOME HEATING

The Beanco home heating unit with small bore piping can be readily and economically installed in existing houses or houses under construction. By suitable placing of the radiators, efficient background heating for the whole house—including hot bath water and heated towel rail—can be provided. The radiators are in handsome contemporary style designed to blend with modern decor. Note these other Beanco features:

- Special extra large back boiler and vitreous enamel slow-burning fire.
- 4 Radiators with screw-on brackets.
- 1 C.P. Towel Rail.
- 1 Circulating Pump.

AND IN ADDITION

- 10 Easy Clean Radiator Valves.
- 30 Gall Indirect Cylinder.
- 10 Gall Heating System Feed Tank with ball cock and ball.

Other Central Heating Systems available from Baxendale:

Redfrye Centromatic Vapourising Oil-Fired Boilers — fully automatic.

Wilson Vapourising and Jet fully automatic Oil-Fired Boilers.

Paulomatic Vapourising Oil-Fired Boilers.

Watts Gravity Feed Solid Fuel Boilers.

Trianco Gravity Feed Solid Fuel Boilers.

BAXENDALE & CO. LTD.

PLUMBERS MERCHANTS BUILDERS PROVIDERS
715 Capel St., Dublin. 'Ph. 76711 (12 lines)

performance that the others have not got.

The aim must be, and it can be an interesting and profitable one, to find out the prices and specifications of all current oil-fired boilers so that these can be listed on a price and performance comparison basis. This will usefully help reasonably informed customers to make a sensible selection—a selection based not on capital cost alone, but with regard to the important performance and running costs as well.

Boiler manufacturers' advertisements help but more detailed specification sheets are freely available to the discerning contractor. For the price of a few stamps he can verify the present boiler usage as sound, or amend it in light of the information he can so readily obtain at little cost.

Oil burners and controls

EXPERIENCE is a hard school and many lessons were learned from the earlier conversion burner units. These were well intended to convert existing solid fuel plant to oil-firing simply by adding a refractory combustion chamber inside the solid fuel fire-box, nad introducing the oil burning unit in pressure jet form for large boilers, and in vaporising burner form for small domestic jobs.

Snags soon appeared. Either the combustion chambers were incorrectly fitted, or they were of unsuitable design for the burner used. A more common fault, and one common to large and small conversion sets, was the fact that oil and solid fuel combustions require quite different boiler contours and design for really effective operation.

Harmony

The trend has been towards boiler design married to burner design to result in harmony which will produce the best conditions of fuel combustion and the most effective transfer of heat from burning oil to the walls of the boiler.

It is possible to purchase burner

SPECIAL SURVEY

from previous page

units separate to large boilers so that individual preferences in this matter of burner usage can be exercised, but the general position with regard to domestic oil-fired boilers is that they are specifically designed and marketed as boiler-burner units.

As such the proto-types will have been adequately field tested before

marketing and orders can be placed with confidence that the burner will function to designed efficiency and without trouble.

Burner Controls include ignition controls—fan assisted draught controls with after burning purge running periods and so on. All of these are monitored by immersion thermostats and electric delay-relays provided as standard integral items of boiler manufacture.

Float Controls for oil feed to bur-

Continued overleaf

The Drayton service will cope with any problem of steam usage. Administered by competent technicians with considerable practical experience, it includes pre-sales consultation and advice, planning and after-sales service, as well as the supply and commissioning of apparatus.

The
Drayton/
Armstrong
Steam Trap
—reliability
indeed!



Drayton

SERVICE to STEAM USERS



The VT self-operating controller. The easiest of steam savers to install and use.

The outstanding attributes of all Drayton equipment—be it steam traps, self-operating controllers or float switches—are reliability, efficiency and economy. They are all designed to give an exceptionally long and useful life, to save steam and to continue to operate accurately over the years.

For full details write to Sole Agents for Republic of Ireland:
MONSELL MITCHELL & Co. Ltd. 67-73 Townsend St., Dublin, 2.
Phone 76282.

SPECIAL SURVEY

from previous page



AT LEFT: Representative of the new Delmore Series III. is the Model 40 De Luxe boiler. (See Product Review).

AT RIGHT: This is a Potterton BOA series oil fired boiler. (See Product Review).



AIR
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Fibreglass is a name found mixed up in the whole field of air-conditioning and heating. This is only to be expected: Fibreglass has been of inestimable value in providing the new forms of thermal and acoustic insulation that help to make modern air-conditioning so silent and efficient. The most recent advances are based on Fibreglass Superfine wool, a material far finer and more consistently fine than any previously available. It is used in many types of external and internal duct insulation. Fibreglass Rigid Sections for hot and chilled water lines are highly efficient and cheap to install; and Fibreglass air filters are probably more widely used than any.

MONSELL MITCHELL & CO. LTD.

Sole distributors of
Fibreglass heat insulation products
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Sixteen

ner are also integral to the completed boiler in the domestic range. These are of a simple basic ball-valve pattern but available in a wide range according to the degree of automatic boiler control required.

Fire Valves are an important and essential safeguard, if not exactly a boiler control. All will be aware that a positive "cut-off" action valve must be incorporated in the fuel line as close as practicable to its point of entry into the building. This valve is operated by the expansion of a heat sensitive liquid held in the bulb which should be fitted above the boiler. The bulb, and its liquid content, connects with the business end, the fire valve, via a copper capillary tube. The bulb will sense any abnormal increase in temperature at the boiler, its volatile liquid will expand, force the safety cut-off fuel valve closed, and thus prevent continuance of fire at a boiler which has taken fire—a happily rare occurrence.

Thermometers

Thermometers are perhaps not so essential in domestic work as they may be in industrial heating or process work; nevertheless, they can give the non-technical householder a direct and easily understood picture of how his boiler is coping with the improved loads, at any time.

These may be of the immersion kind in purpose made thermometer wells, but for domestic work the contact type are neater, and more easily accommodated on the system. The contact type simply clips into position on the flow pipe, or any other pipe the temperature of which is significant in boiler operations.

Oil Filters are not functionally boiler controls but the effect of dirt

SPECIAL SURVEY

from previous page

or waste in fuel oil could have far-reaching and damaging effects on boiler controls and their effective operation. Filters may be fitted at the outlet from the oil tank, whilst a fine filter, preferably with transparent base cup, is helpful if fitted close to the boiler.

The proper combustion of any fuel is a pre-requisite to safe, economic and efficient fuel consumption. Oil fuel is no exception. In fact oil fuel may well require more care to ensure correct combustion than, say, solid fuel, and this extra care is amply repaid by increased plant efficiency.

Information

Flue Gas Testing Kits are available for checking oil combustion and all oil burning installers will surely be aware of the important use of these.

In cases of doubt, informative literature from advertisers should be sought without delay.

Time Switches to monitor heating systems are now rapidly becoming standard items of equipment—and rightly so. Central heating is not cheap, it never will be. However, its cost can be reduced by selective heating, and one form of selective heating is to use it only during those times when people occupy the heated spaces. For example, no one need bedrooms heated throughout the night when everyone is snugly tucked up in bed, and certainly there is no point in heating the downstairs rooms all night.

Savings

A time switch will cut off the heating at a pre-set time after the household has retired and switch it back in again at a pre-set time before the household rises. Considerable fuel savings can be effected in this way.

Zonal Control, either manually or electrically operated, is another feature of many modern boilers. In this case upstairs and downstairs heating circuits are arranged as separate cir-

Continued page nineteen



A TRIANCO SOLID FUEL BOILER IS THE AUTOMATIC CHOICE FOR THE MODERN HOME

- 1 A Trianco Boiler is thermostatically controlled. You set the thermostat, the Boiler does the rest.
- 2 A Trianco Boiler is gravity fed automatically with small anthracite from a large integral fuel hopper permitting burning for up to 72 hours without attention or refuelling.
- 3 The Trianco Boiler is declinkered in 2 seconds by a simple lever movement. (No dust, no loss of heat). This is a Trianco Exclusive Feature. The clinker and ashtray only requiring emptying once or twice a week.
- 4 The Trianco Boiler gives more heat for less fuel and burns a wider range of fuel than any comparable boiler.
- 5 A Trianco Boiler will provide central heating and constant hot water, cleanly, economically and efficiently.
- 6 A Trianco Boiler is attractively designed in a choice of colours and is a fine engineering product, made to give years of trouble free operation and backed by a first class service.

Trianco Solid Fuel Domestic Boilers from 50,000 B.t.u. capacities. Larger Trianco Boilers up to 3 million B.t.u. (oil fired) and 2 million B.t.u. (solid fuel).

TRIANCO

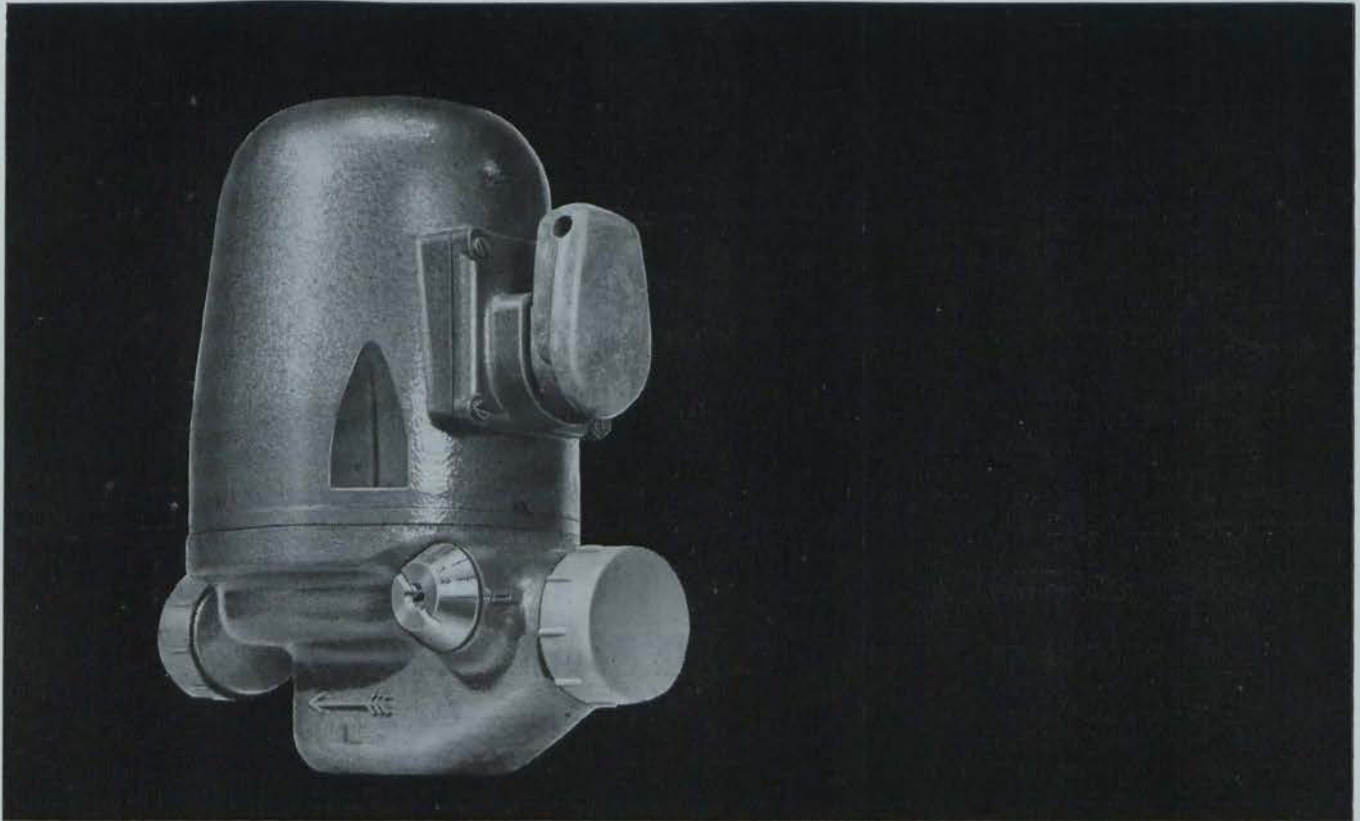
For further details write or phone
our TRIANCO agents in Eire:

5, Upper Fitzwilliam St.,
Dublin, 2.
Phone: 63061.



TRIANCO
automatic boilers

Trianco Ltd. East Hove, Sussex



ONE PUMP ONLY gives you all this



unmatched variability



clutch combined with
press button venting

- * super silent operation
- * can be installed in any position
- * 2 year free replacement guarantee
- * covers all domestic installation requirements

Only the OPIOMATIC glandless circulating pump gives you all these features in one pump



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B.S.A. HARFORD
PUMPS LIMITED

Northside House, Mount Pleasant,
Cockfosters, Herts. Tel: HADley Green 2244

The world's largest manufacturers of variable output accelerators

IN CONJUNCTION WITH THIS SPECIAL SURVEY WE REVIEW HERE PRODUCTS FROM THE LEADING MANUFACTURERS' RANGES.

ALL CLAIMS MADE ARE THOSE OF THE MAKERS.

PRODUCT REVIEW

THE announcement by B.S.A. Harford Pumps Limited of their new range of Hotspur wall-flame domestic central heating boilers considerably widens the range of B.S.A. Harford central heating equipment now available. Products already well established are the Opimatic accelerator pump (B.S.A. Harford claim to be the largest manufacturers of variable output glandless accelerators in the world), the Opio pump for larger installations, the TA radiator valves and the Mixford mixing valve.

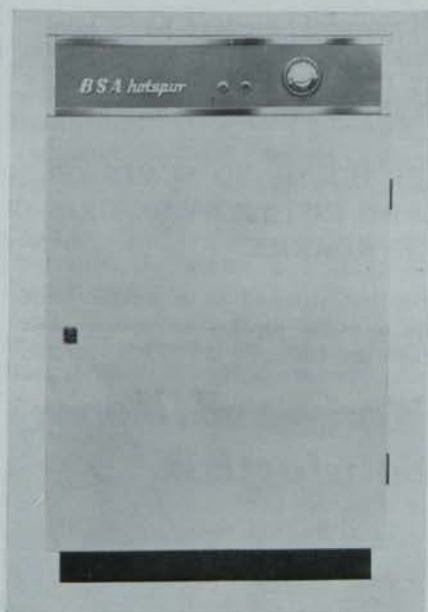
The new range of Hotspur boilers

are designed to be installed inside the home—probably in the kitchen. They are compact and styled to blend unobtrusively with kitchen decor.

The burner is the Toridheet wall-flame burner which is also made by this manufacturer. It is extremely quiet in operation, using its fuel as a

lubricant. The burner, which responds instantly to controls, creates a quiet and stable flame which meets the inner walls of the boiler near the base and maintains direct contact over the full heating surface, giving rapid and economical heating. Combustion

Continued page twenty-one



A. L. TOWNSEND

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cuts. This allows the zonal control equipment to shut off the downstairs circuit after the household has retired to bed, and then, a little later, to shut off the upstairs circuits. Similarly, in the morning, the electric clocks operated control will open the bedroom and downstairs circuits, say, at 7 a.m., rising time, shut off the bedroom heating at 10 a.m., and open it up again, say, at 9 p.m. for warming prior to the household retiring to undress for bed.

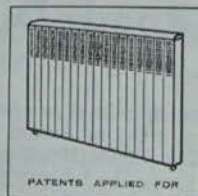
In between the various control motions the burner unit is controlled by the boiler thermostat as normally.



CONRAD a great step forward in space heating

Conrad is the happy result of a marriage between Convection and Radiation. Room air enters heater near floor level, is then evenly warmed and distributed throughout the room by convection which, combined with radiation from the front panel, offers hitherto unavailable new comfort and climate control. Examines Conrad's revolutionary new features:

- 1 Conrad is so designed that radiation from the panel face is always at optimum value. At low water temperatures the panel approaches the mean water temperature and the difference gradually increases as the water temperature rises.
- 2 Conrad is suitable for all two-pipe accelerated hot water systems. Ideal for multi-storied buildings, every Conrad is tested to 1300 p.s.i. pressure.
- 3 The low water content of Conrad ensures rapid heating up to the design room temperature giving quick response to water temperature changes.
- 4 Conrad's low installation costs bring a new concept of economy. One man can handle the fixing. There are no built-in wall brackets as with ordinary radiators—Conrad needs only 2 or 3 wood screws to firmly secure its lightweight efficiency. A 6 foot model weighs only 49 lbs.
- 5 The heater comes in 9 sizes, rising in increments of 6" from 24" to 72". It is 22" high, projects only 3" from the wall, and should be fitted not less than 4" above floor level.



BIDDLE

F. H. BIDDLE LIMITED

16 Upper Grosvenor Street London W1
Tel: Hyde Park 0832

So there you have it. A quiet revolution in space heating. Further details from:

D. H. BUTLER, 7 Blackwood Crescent, Helen's Bay, Belfast. Telephone: Helen's Bay 2119.

QUADRANT ENGINEERS, 167 Strand Road, Sandymount, Dublin 4. Telephone: Dublin 693940

Quality Controlled Products

1988 AND ALL THAT

PERKINS BOILERS LTD., PIONEERS OF HEATING FOR 40 YEARS, PRESENT THEIR 1988 BOILER MODELS IN 1963 . . .



Central Heating Boilers built by Perkins are PURPOSE DESIGNED, TOUGH AND RELIABLE—Boilers installed in "the twenties" are still working efficiently to-day, as will be the new range of streamlined Flue-less boilers in 1988.

Perkins Precision Heating Boilers cover every size and type of boiler and burner to suit each individual installation requirement. Available for Oil, Gas or Electric Firing, and ranging in price from £78 upwards.

Perkins "Flue-less" Wall-mounted Pressure-Jet "Mini" Boilers (illus.) have outputs of 50/60/80/100 and 150,000 B.T.U.'s per hour, and are the most highly efficient, fully automatic boilers available at any price.

NO FLUES, NO BOILER HOUSE, NO FUMES OR ODOUR, NO DIRT. NO INSTALLATION OR SERVICE WORRIES.

(Boilers similar to the above, but enclosed in a weatherproof cabinet, complete with pump, to stand against an outside wall and connect to services through the wall, are the "Pilot" series).

**By Specifying Perkins YOU save Time, Worry and Money
The Householder gets COMPLETE Satisfaction**

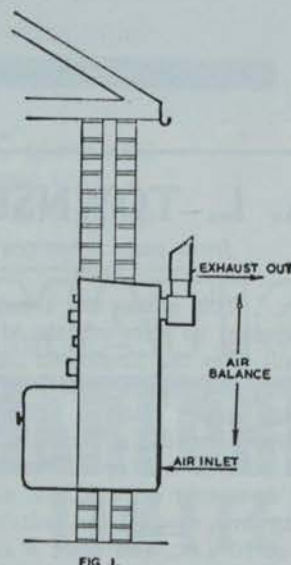


PERKINS "DESIGN SERVICE" takes the sting out of central heating work. A complete and accurate calculation of heat losses is prepared, and a schedule of all necessary equipment with two or more working drawings, which clearly show pipe sizes and runs, rad spotting, etc., is passed to the installer. When all services have been connected and the system water-tight, a Perkins-trained engineer commissions the boiler and carries out all necessary adjustments for maximum combustion efficiency . . . an "After Sales Service Contract" is offered to the householder to give full preventive maintenance service for the long life of the boiler.

**Perkins Design Centre and Showroom is at—
'The Leinster Heating Centre'
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TEL. 54736.

A call or card will bring a trained heating engineer to solve any problem you may have in Central Heating, Heat or Steam Raising, Insulation or any allied problems. In N. Ireland consult "The Ulster Heating Centre", 90 Cromac St., Belfast. Ph. 21440.



tion is clean and free from carbon deposit with the result that the unit requires practically no servicing.

The Hotspur boiler has been sold for the last three years in the North of England, where a reputation for reliable, quiet and trouble-free performance has been established. The Toridheet burner has been proved over a long period of time to give quiet and efficient combustion.

Irish Agents: Heating Controls and Devices Ltd.

* * *

GLOW-WORM Boilers Limited—among Britain's oldest central heating concerns—now manufacture the Rheem "Hydronic" sectional boiler, one of America's most successful appliances—in Britain.

Three models are available, all of them pressure jet oil fired and each of them available with a choice of burner—either the Nu-Way ZL12 or the Camron OB4K.

The three are the Model 3B, rated at 60,000 B.Th.U./hr.; the Model 4B, rated at 80,000 B.Th.U./hr.; and the Model 5B, rated at 100,000 B.Th.U./hr.

Rheem/Glow-Worm boilers, manufactured under licence from the Rheem Manufacturing Company, Chicago, are of cast iron sectional construction and feature a number of special points.

The high quality cast iron sections have asbestos wicking between sections to give an air-tight seal and pre-

SPECIAL SURVEY

from page nineteen

vent the spreading of rust, while a vertical studded flue travel design ensures that hot gases are forced to pass slowly over every inch of the waterways.

A wet base design, with water on three sides and the top and bottom of the combustion chamber, prevents heat loss and makes installation possible on combustible floors.

Efficiency is further improved by a full 1½ in. fibre glass blanket, a layer of aluminium foil and an application of reflective aluminium paint between the boiler and the casing to further prevent heat loss.

Irish Agent: Monsell Mitchell & Co. Ltd.

* * *

THE CAST iron sections of the Harper Meehanite Oil Fired Boilers are manufactured from Meehanite, which, according to the manufacturer, is superior to the old grey iron for the purpose of boiler sections. There is less risk of porosity, less risk of breakage during transport or assembly and less chance of failure of the sections during service through thermal shock or the effects of condensation.

The boiler has a waterway floor and a high domed combustion chamber which permits continuous high efficiency burning. The boiler is available with Quiet May, Nuway, Camron and Hopes burners.

Irish Agents: Wm. Finucane & Co.

* * *

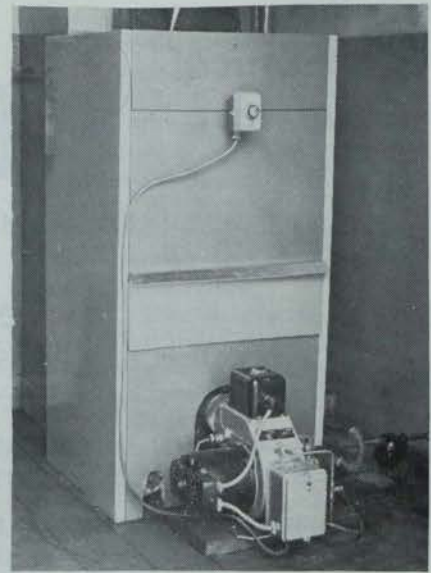
THE 30 AMP Vennerette has been designed to provide comprehensive control of a domestic heating installation. It has been styled to occupy a prominent wall-mounting position in any surroundings; its wide range of applications includes control of electric space heating, immersion heaters and oil and gas-fired boilers.

Measuring just over five inches in length and two and a half in width, the unit features the Easy-Set-Dial. This has been introduced to speed and simplify adjustment of the twin pairs of programming hands, which permit two independent switching periods (two on, two off) to be set in each 24-hour period.

Irish Agents: Roper Brothers Ltd.

* * *

WELDRYTE LIMITED of South Quay, Arklow (Co. Wicklow), offer a



One of the John Harper Mechanite oil fired boilers. (See story, centre column).

wide range relevant to this survey to which attractive trade discounts apply.

Temp-O Domestic Heating Control Units—Type 1 (Standard)—provides for integrated control of the central heating system and domestic hot water where the two are provided by one boiler, and Type 2 (Econic) is as Type 1 Standard except for additional auto control of bedroom heating for a fixed period during any day, days or during the week.

The Tempo-O Type W oil-burner (for 45 secs. oil) is a burner of new design incorporating a stainless steel flame funnel which promotes a degree of precombustion. The resultant flame is of controlled shape, stable and highly radiant. Very high CO₂ readings are achieved.

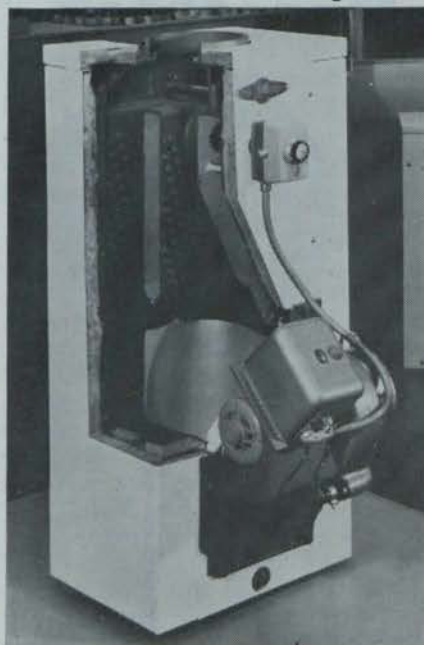
Other products from Weldryte include the Temp-O Type T oil-burner (for 45 secs. oil), which incorporates a combustion head which gives a short, stable bushy flame, and the Temp-O domestic central heating boiler Type B. Rating of the three models range from 50,000 B.t.u.'s/hr. to 200,000 B.t.u.'s/hr. Also supplied is a range of warm air furnaces.

* * *

THE NEW WORLD Stratalyn injector gas water heater represents something new in gas water heating. It is Regulo-controlled and is suitable for attachment to a hot water storage cylinder or tank by means of a single connection in much the same manner as an immersion heater.

Continued page twenty-three

Twenty-one



A Rheem Glow-Worm "Hydronic" oil fired sectional boiler cut away to show the studded vertical boiler flueways.

The Most . . .

**Economical
Automatic
Reliable**

HEATING FOR

**Factories
Garages
Workshops**

NOW DEFERRED TERMS AT ATTRACTIVE RATES, THROUGH MERCANTILE CREDIT CO. OF IRELAND LTD. LOAN PLAN.

Weldryte Air Heaters are—

**COMPACT • EASY TO INSTALL • RELIABLE • COMPETITIVELY
PRICED • FULLY GUARANTEED • EFFICIENT (over 80% combustion
efficiency) • SUITABLE FOR USE WITH DUCTED SYSTEMS • AUTO-
MATICALLY CONTROLLED BY TIME SWITCH AND AIR THERMOSTAT**

A warm factory or workshop pays dividends. Warm, contented men will give a better day's work for their pay. By setting the time switch to start 20 minutes beforehand, the whole building can be warm when work begins.

ATTRACTIVE DISCOUNTS TO THE TRADE

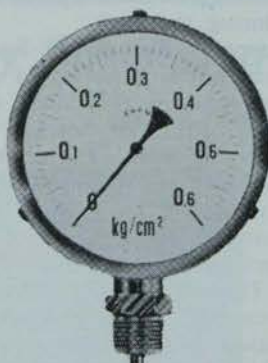
MODELS: 200,000 BThU's/hr.; 300,000 BThU's/hr.;
500,000 BThU's/hr.; 750,000 BThU's/hr.

For more details write to:—

WELDRYTE LTD.,

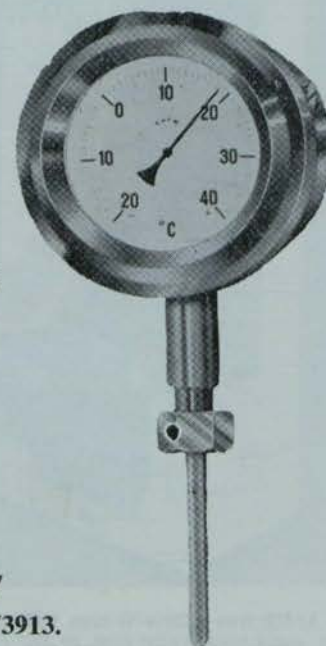
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Range of
Gauges and
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Thermometers —**



MANOTHERM LTD.,

14 CORN EXCHANGE BUILDINGS, BURGH QUAY, DUBLIN. Tel. 73913.

The connection comprises a fitting with combined flow and return water ways and a flexible flow pipe. The flow pipe is arranged vertically within the storage tank and terminates close to the top, thus hot water is injected directly to the top ready to be drawn off as required.

The output of the Stratalyn, which can normally be attached to an existing cylinder or tank, is about 5½ gallons of water per hour raised 80 degrees F.

* * *

AGENTS in Ireland for the comprehensive range of K.D.G. Instruments Limited of Crawley (Sussex) are Luke, Martyn & Co. Limited, 1 Sandyhill Park, Drumbeg, near Belfast. The K.D.G. range takes in thermometers, thermostatic controls, oil tank gauges and oil level alarm systems.

* * *

THOMAS POTTERTON Limited, a member of the De La Rue Group, has announced a reduction in the price to the public of the "Potterton" BOA series of oil-fired boilers for domestic and commercial applications.

There are three sizes in the range—with ratings of 60,000, 90,000 and 130,000 B.t.u./hr.—designed to supply full central heating and hot water for medium and large houses. The reductions amount to approximately 14 per cent.

Through the company's own increased turnover and productivity and that of its suppliers, aided by lower EFTA tariffs on imported components, price reductions of these boilers over the last four years now total 35 per cent.

* * *

HENRY WILSON & Co., Ltd. (Liverpool), have announced their second price cut in 20 months with a re-styled range of Wallflame boilers.

Not only have the cabinets for the W.F. series been re-designed and simplified to look attractive in any kitchen, but the boilers have been fitted with new controls. Many new features are incorporated in the W.F. range.

Two complete new models are the W.F. 125 rated at 125,000 B.t.u.'s and the W.F. 150 rated at 150,000 B.t.u.'s.

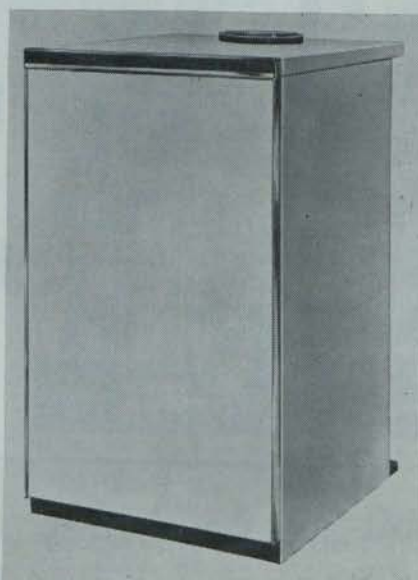
As an extra, the Wilson Wallflame can be fitted with the company's "Waterguard" unit. This includes a time check and a relay box with plug-in connections for the circulating pump, room thermostats and hot water cylinder thermostat.

SPECIAL SURVEY

from page twenty-one

The Waterguard solves the problem of boilers which are constantly switching themselves on and off at frequent intervals and thus using more oil.

Also attracting keen interest is the Wilson radiator range. The super slim radiators—their thickness is less than the diameter of a threepenny piece—come in two models, Waveline and Straightline.



One of the W.F. series from Henry Wilson.

The Waveline presents a surface patterned with shallow dimples and can be painted, while the Straightline has a completely flat surface which can be both wallpapered or painted.

Irish Agent is George A. Reid, 16 Fade Street, Dublin.

* * *

THE DELMORE Series 3 range, now in full production, is a further development of a well proved basic design. So successful has this design been, in fact, that it has been very little altered. The Delmore semi-automatic vaporising pot burner has been shown to provide a simple and most reliable form of oil-fired heating.

Delmore boilers are available with outputs from 30,000 to 128,000 B.t.u.'s/hr. and can be supplied, throughout the range, to operate com-

pletely without electricity. Even the largest Delmore is designed for kitchen installation.

Series 3 improvements include: Styling: The draught stabiliser has been concealed beneath the top panel. A flue pipe can be connected directly to the top of the boiler and is available in matching colours of white or cream vitreous enamel.

Control: This is effected by Teddington KBA Series oil-control valves. All models can be supplied with electric or non-electric control.

Burner Adjustment and Draining: The low flame can be adjusted visually without removing the gas deflectors. Should the burner go out any time the householder can completely drain the burner, without disconnection, through an easily operated drain cock. The burner is easily re-lit, though this is normally only necessary after servicing.

* * *

THE JANITOR boiler news is that the old 40,000 B.t.u. boiler has been replaced by one of 45,000 B.t.u.'s. The boiler is now fan-assisted and has automatic ignition, thus effecting further fuel economy by doing away with the low flame of a non-automatic boiler.

In addition the cover has been "squared up" to conform with the modern kitchen.

The range of Janitor oil-fired pressure jet boilers has also been extended and Powell Duffryn Heating Limited can supply a boiler with a rating up to 22,000 B.t.u.'s. However, this has been only recently announced and we are waiting for further details which will appear in a forthcoming issue.

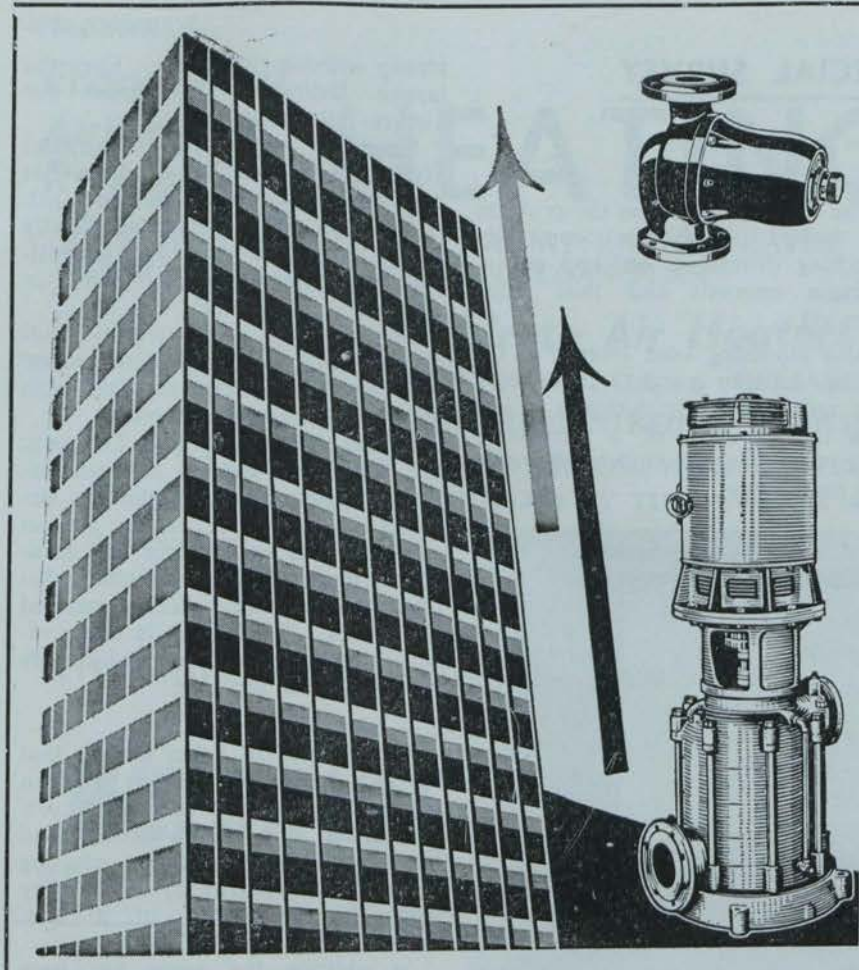
Irish Agents: Mr. D. Sullivan, Clonmel, and in the North of Ireland Luke, Martyn & Co. Limited.

* * *

THE VEHA coke boiler is of modest size and is ideal for kitchen installation, whereas its heating capacity is great with low fuel consumption. This is achieved by extensive use of fuel gases before they are released into the chimney.

The boiler, which is suitable for coke, crude anthracite, coal-briquettes or mixed fuel, is easily controlled and accurately regulated.

Also from Veba Limited of Finglas is the type "O" oil-fired boiler. Three points were borne in mind in the design of this boiler—high efficiency (88 per cent.), compact construction,



SILENTA
HOT WATER
ACCELERATORS

•

LOEWE
TWIN PUMP
CIRCULATORS

•

BOOSTER PUMPS

•

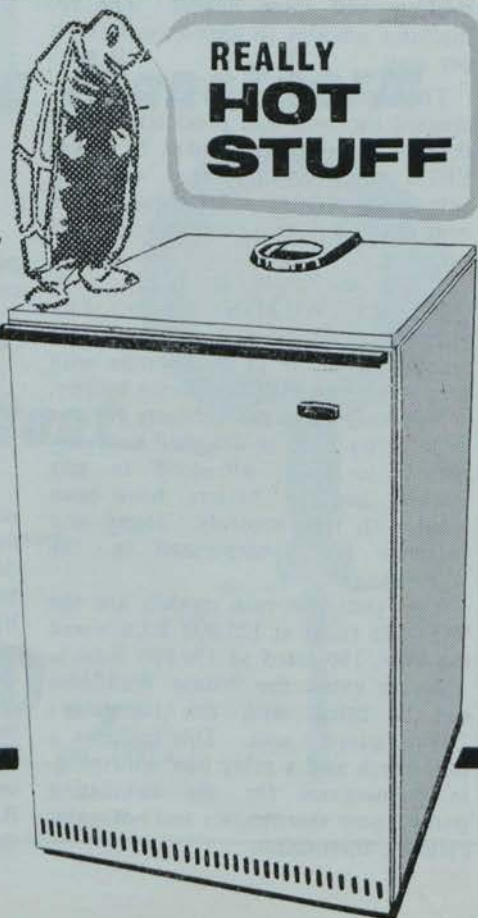
H. R. HOLFELD. Ltd.
STILLORGAN
Phone 881603 (5 lines).

A modern high-quality production on which you can rely, from manufacturers with 130 years' experience.

Portway

OIL-FIRED BOILERS

- ★ Built-in reliability
- ★ Precision engineered, incorporating the 'years ahead' waterway
- ★ A range of models to suit all tastes and needs
- ★ Supplied with or without cases
- ★ Cheapest to buy—see your Merchant's prices



Specifications and prices on request from the Sole Importers:

IRISH TECHNICAL & PRODUCTION CO. LTD.

25 UPPER MOUNT STREET, DUBLIN, 2.

Telephone 62636. Telegrams "Tepro-Dublin."

<http://www.tuoh.ie/bss/vol3/iss6/1>
DOI: 10.21427/D70H6N

and ease of cleaning. They are manufactured in capacity of 88,000 B.t.u. and upwards.

The Veba range of panel radiators is also well known. These are available in both angled, straight and curved executions.

* * *

SHOWN HERE is the Standard oil-fired boiler by Charles Portway



PRODUCT REVIEW

from page twenty-three

& Son Limited of Halstead (Essex). The four models in this range have maximum outputs of from 46,000 B.t.u.'s/hr. (model 4/50) to 105,000 B.t.u.'s/hr. (model 100).

These boilers, which are fully automatic, can be supplied with a number of optional extras, and these include special trims, triple action aquastats and Bower Barffing (soft water area protection)

Portways point out that the very small difference in price between the Standard and De Luxe ranges would make the De Luxe range the better buy for a client, especially where payment is spread over a number of years and taking into consideration the cost of the whole installation.

* * *

THE VALOR pressure jet boilers—60,000 and 80,000 B.t.u.'s—have been designed specially for the larger home, where the company's smaller capacity boilers may prove inadequate.

Demands for hot water can be quickly supplied through the high rate of heat transfer. A Gilbarco pressure

jet burner is fitted as standard with Danfoss fully automatic control box and photo cell flame failure device. Also fitted as standard is a Satchwell boiler thermostat with off position.

The A06 (60,000 B.t.u.'s) has a total loading of 350 sq. ft. with a half gallon max. fuel consumption per hour, and the A08 (80,000 B.t.u.'s) has a total loading of 450 sq. ft. with a two-third gallon max. fuel consumption per hour.

The Valor range of oil-fired boilers are fully automatic with electric ignition. Models available are: A03 with a constant rating of 30,000 B.t.u.'s and total loading of 155 sq. ft., and A04 with a constant rating of 45,000 B.t.u.'s and total loading of 230 sq. ft.

Irish agents are Esso Petroleum Company (Ireland) Limited.

* * *

THE ROTHERHAMS Varimatic Mini Pump uses interchangeable steel shell PTFE dry lubricated bearings which have a co-efficient of friction as low as .01 when used in water lubricated conditions. Silent operation is a key feature.

Each pump is individually perfor-

Continued page twenty-seven

**Let us quote you for Boilers by
B.S.A., HOTSPUR, WILSON, CRANE, IDEAL, POTTERTON
TRIANCO, GRAHAM STEWART, and others**

Heating Controls & Devices Ltd.

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BUDERUS BOILERS for OIL

from 46,000 Btu/hr. to 3,000,000 Btu/hr.

● Buderus boilers are gaining on others for high efficiency, pleasing appearance, competitive prices and especially quick delivery. (Many sizes now from Dublin stock).

P10W	Output Btu/hr.	Length inches	} height 34" width 15"
5	46,000	14	
6	53,000	17	
7	61,000	20	
8	69,000	23	
9	78,000	26	

P20W	Output Btu/hr.	Length inches	} height 40" width 18"
6	82,000	18	
7	94,000	21	
8	107,000	24	
9	119,000	27	
10	131,000	30	



Sole Agents:

**QUADRANT
ENGINEERS**

167 STRAND ROAD,
SANDYMOUNT, DUBLIN, 4
Tel. 693940/43.

FORTANO-K Magazine Boilers — Anthracite

A REASONABLY PRICED DUTCH BOILER FOR HIGH EFFICIENCY ON SMALL ANTHRACITE, FOR KITCHEN INSTALLATION.

	Btu/hr.	Height	Width	Length	Flue
*K1	60,000	40"	15"	20"	5"
*K2	72,000	40"	15"	22"	5"
K3	84,000	40"	17"	22"	5"
K4	100,000	40"	19"	22"	6"
K5	116,000	44"	17"	26"	6"

*Now ex stock DUBLIN.

Tappings back or sides; flue right or left.

Magazine contains about 8-hour full load burning.

Insulation jacket and autoflame controller supplied.

The larger FORTAVENTI series is available up to 1,320,000 Btu/hr.



Sole Agents:

Quadrant Engineers, 167 Strand Rd., Sandymount, Dublin 4

693940/43.

mance tested and the results recorded as well as forwarded with the guarantee card. Each pump is also pressure tested to 150 pounds p.s.i. Every pump carries a year's guarantee.

PRODUCT REVIEW

from page twenty-five



Also from Rotherhams is their Mini-Matic time controller. It is a

fresh approach to the requirements of both the domestic user of time appliances and for industrial sequence operation. It has an electrically driven 24-hour clock unit using a new gear train arrangement which is subject to a patent application.

* * *

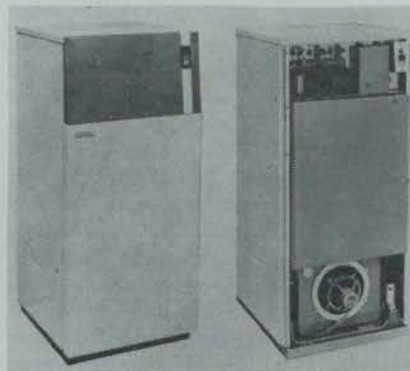
IS THE indirect cylinder always needed? Not with the new Buderus Loganaquell, where a copper heat exchanger is built into the well-known range of P20 and P30 W boilers, from a capacity of 82,000 B.t.u./hr. upwards.

This will eliminate in many jobs the removal of existing cylinders in order to replace them with an indirect cylinder.

Available in a few weeks on Dublin Quay, as are all Buderus Boilers, this

is a valuable addition to the Buderus Range. Should demand increase, it will be included in the large Dublin stock held by the sole agents:—Quadrant Engineers, 167, Strand Road, Sandymount, Dublin 4.

* * *



This is the many featured Redfye De Luxe 80 on which a full report appears on page twenty-nine. This model is available from Baxendales & Company Limited, of Capel Street, Dublin.

TYLOR Meters

Liquid Control at Low Cost



● Tylors Model LL-3. Robust meter for oil-consumption in burners.

- ★ BLENDING AND BATCHING OF INDUSTRIAL LIQUIDS FOR AUTOMATIC OR MANUAL CONTROL.
- ★ REMOTE CONTROL OF COMPLETE PROCESSES FROM A CENTRAL POINT.
- ★ MEASURING OIL CONSUMPTION FOR BOILER HOUSE PLANT.
- ★ RATE OF FLOW INDICATION.
- ★ WATER METERS FOR ALL DUTIES.



55 RATHGAR AVENUE, DUBLIN.

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The Irish Plumber and Heating Contractor.

TRADE

TOPICS

SAVE FUEL CALL

—MINISTER

IN many cases there were savings as great as 20% attainable by the elimination of fuel inefficiency, said the Minister for Transport and Power, Mr. Childers, when he opened a course in Fuel Efficiency at St. Luke's Hospital, Rathgar, this month.

The course was arranged by the Institute of Hospital Administrators and representatives from 18 hospitals are participating.

Mr. Childers said that everyone realised the importance of efficiency. Generally speaking, if a factory was inefficient, the first thing one noticed was that it had an old fashioned, inefficient heating plant.

The waste of time, effort and money involved was significant in the costing operation attendant on the administration or the working of any hospital.

One of the main objects of the course was to give boilermen a better understanding of the process they were operating, said Mr. Childers, who went on to stress the importance of communication between management and worker to give the workers an understanding of the part they were playing. He understood that hospital plants were capable of much improvement in the fuel efficiency line.

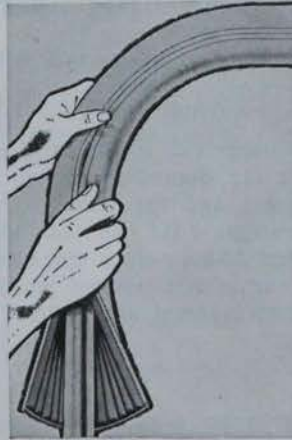


The new Leisure Basin, from the Leisure Works of Allied Ironfounders Ltd. Like the Leisure Culsynk, it is manufactured in vitreous enamelled pressed steel. The design is oval, with the same shape repeated in the soap recesses. The basin is available in colours to match those of Allied Vogue

baths.

<https://arrow.tudublin.ie/bsn/vol3/iss6/1>
DOI: 10.21427/D70H6N

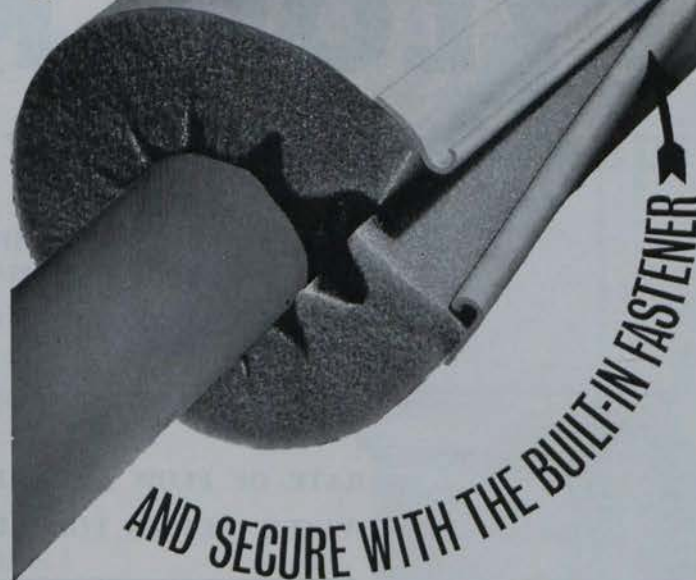
THE REVOLUTIONARY NEW PIPE INSULATION



Cheap to buy, easy to apply . . . RAPLAG is revolutionary wrap-around Pipe Insulation that can be fitted with unskilled labour on any pipe run—even the most intricate or difficult of access. No fussy clips or wrappings, RAPLAG needs nothing more than the bare hands, and the exact length required can be economically cut from the standard 12 foot coil. Slow bends, sockets, unions and other similar fittings can quickly be negotiated in the same way without cutting or special preparation. Acute bends, elbows and tee junctions can be covered by simple cutting with a knife or scissors on site. RAPLAG is manufactured to conform to BS. 1334: 1959 and is the ideal insulation for all pipe systems up to 177°C. (350°F.).

RAPLAG

SIMPLY WRAP IT AROUND THE PIPE



Raplag is made from polyurathene profiled foam bonded to a cream PVC cover with integral lips for fastening.

Raplag is extremely light in weight, the foam weighing only 28 ounces per cubic foot.

Raplag is supplied in 12 foot lengths

wrapped in polythene, complete with fitting instructions.

Raplag is suitable for insulating pipes carrying cold and hot water and steam up to 320°F.

Raplag is very efficient, having a K value of 0.29 B.Th.U./ft²/hr/inch/°F. at 10°F. mean face temperature.

Write for literature and full details to:

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NORTHERN FROM ALLEN MCDOWELL NOTES

EVERTON WILL TREBLE THEIR PRESENT WORKS

EVERTON Engineering Ltd., one of the North's most progressive companies, will, by the end of the year, have a new extension which will more than treble the size of the present works. And the success story behind the Whitehouse, Co.

NEW REDFYRE FROM NEWTON

PRODUCED to provide hot water continuously at or above a fixed minimum temperature plus central heating and a high output oil-fired boiler specially designed to fit into the kitchen is this new Redfyre De Luxe 80 (80,000 B.t.u.'s/hr.). With sleek lines the cabinet is finished in white stove enamel with the control panel cover in satin finished stainless steel. While the total height is 48", the white front panel is 36" from the floor carrying through the line of other kitchen equipment, and the stainless steel panel slopes back slightly, minimising the height.

The boiler is supplied with an attractive room thermostat to control the temperature of the heating circuit, and apart from this the only controls for the housewife to use are two press button switches on the right of the control panel. The red at the top starts the boiler, heating the hot water, while the yellow, below, brings in the heating circuit.

Intended for the average five-bedroom house, this new boiler by Newton Chambers of Sheffield supports a 50-gallon cylinder plus 350 sq. ft. radiator surfaces (including the service pipes).

Irish agents: Baxendale & Co. Ltd., 7 Capel St., Dublin; W. P. F. Hume, Ltd., 6-12 Hyndford St., Belfast 5.

See picture on page twenty seven.

• Big Everton Works Extension • Plumbers to the rescue • New boiler 'go-ahead'

Antrim, firm is due directly to the enterprise of its go-ahead chairman and managing director, Mr. James Leckie.

A former sheet-metal worker, Mr. Leckie has—inside nineteen years—built a two-man beginning into a light engineering concern now employing 200 people. Markets stretch throughout Europe as well as the Irish Republic and Britain.

To reach these ever-expanding markets the Larne, Co. Antrim, born industrialist, who has a passion for farming, bought an aeroplane (featured this page, May issue). With former Squadron-Leader Bill Young as a newly appointed firm's pilot, Mr. Leckie now flies to many of Europe's capital cities, cutting time and improving relations and communications in the process.

With a man like 41-year-old Jim in control, Everton's proud boast of being planned in order to provide one new job per week over the next ten years looks like being more than adequately fulfilled.

Co-director in the firm, whose factory at present covers an area of 30,000 sq. ft., is Mr. George Leckie, a brother.

* * *

IT HAPPENS everywhere sooner or later and even stately Kensington Palace cannot claim exemption. They had to call in the plumber recently to look at the drains.

"It's needed doing for two or three years now," an official of the Ministry of Public Buildings and Works said. "The system is something like a couple of hundred years old and can now hardly cope with the kind of weather we've been having of late."

Shortage of funds deterred the Ministry from making an earlier start on the overhaul. Then the drains gave up under a particularly heavy deluge and caused flooding within the Palace precincts.

* * *

INTERNATIONAL Combustion, Ltd., have received the "go-ahead" signal from the Central Electricity Generating Board (London) to proceed with a further two boiler units for their power station on the Medway Estuary.

And it is quite a tidy order, for the total value involved in supplying the two reheat boilers—each 500 mw. equivalent electricity capacity—is in the region of 11½ million pounds. The units are identical to two previously ordered.

International Combustion and Simon Carves are jointly engaged on the contract for the boilers, which are designed to burn both coal and oil or any combination of both fuels.

The four units will go into operation, progressively, between Autumn, 1967, and the late summer of 1969.

* * *

A CIRCULAR sent out to the trade about a new heater soon to be marketed by the Valor Co. appears to have reacted very favourably on the firm's shares. The 5/- Ordinary shares rose to 19/- recently, although the letter told retailers that delivery could not be promised before January.

The Board takes this to be an assumption on the part of the market—correctly—that the company has an exceptionally full order book.

* * *

A DIMPLEX home-heating competition run in conjunction with the Ideal Home Exhibition at the Kings Hall, Belfast, earlier this month, had as a prize no less than ten of the firm's appliances.

Attracting a great deal of attention on the stand of B. J. Caraher (Distributors) Ltd., the Dimplex agents for Northern Ireland, the ten-part prize consisted of four electric radiators, two infra-red wall mounted heaters, one coal effect fire, one oil-filled towel rail and two night storage heaters.

Mr. Brian Caraher, head of the Alfred St. firm, said he was thrilled with the interest shown in the competition and the exhibit generally.

* * *

MARRIED: Miss Sally N. McGuire, daughter of Mr. E. D. McGuire, chairman of the Sirocco Engineering Works, and Mrs. McGuire, Wind-whistle, Cultra, Co. Down, to Mr. John McL. Judd, Dumbarton, Scotland. The ceremony took place at the Parish Church of SS. Philip and James, Holywood, Co. Down.



PROPANE GAS TORCHES

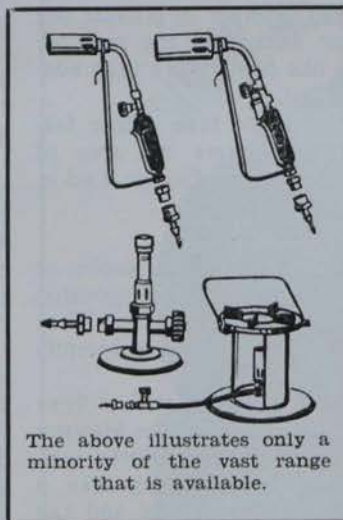
Instant
heat - just
where you
want it!



ideal for
the plumber
—cheap and
simple to use

Nine burners interchangeable with eight different supports Sievert bottled gas burners ignite immediately and burn with an intense clean flame adaptable to all requirements from a small pencil flame to a powerful voluminous flame. Plumbers everywhere are readily appreciating the advantage of the range of Sievert bottle gas appliances, with a burner for every job, all interchangeable — even furnaces and soldering butts.

- LEAD WELDING
- PLASTIC WELDING
- PIPE BENDING
- BRAZING
- SOFT SOLDERING
- PAINT STRIPPING



The above illustrates only a minority of the vast range that is available.

Keep pace with developments — Sievert show the way

Please send illustrated brochure and further details of the complete range of Sievert Bottled gas appliances.

NAME

ADDRESS

WM. A. MEYER LTD., 9-11 GLENELDON RD.,
LONDON, S.W.16. Telephone STR 0015.

TRADE

TOPICS

BOOSTER PLANT FROM SIGMUND

A HYDRO-PNEUMATIC Booster Plant designed to help increase the towns mains water pressure in modern multi-storey buildings, has been introduced by Sigmund Pulsometer Pumps, Ltd., Reading and Gateshead.

This compact packaged water supply set consists of a vertical mounted pressure tank with close-coupled pumps, starters, switchgear, compressors and pressure switch and the complete plant is wired ready for connection to mains supply.

The new design covers capacities from 10 to 60 gallons per minutes and there are two basic tank sizes—approximately 250 or 400 gallons. The tanks conform to the B.S. code for pressure vessels and are designed for a working pressure equivalent to 200 feet head. A non-tasting bituminous coating is applied to the inside.

The Booster Plant includes two one-inch "C" midget compact end suction centrifugal pumps. Each pump has 2-in. central suction and 1-in. discharge branches screwed B.S.P.T. There are two squirrel cage, drip-proof, flange mounted motors, wound for 415 volts, 3-phase, 50-cycle supply. The motors have class "E" insulation.

Starting equipment is of the direct-on-line type with hand/off/auto selector switch. Star delta starting can be provided for the pumps at extra cost.

Pressure operated switches are arranged for duty and standby operation of the pumps and there is a hand-operated changeover switch to alter nate the leading and standby duties of the pumps. The close-coupled compressor set is capable of delivering 1½ c.f.m. at 120 lb. sq. in. It is driven by a ½ h.p. 3-phase motor with a hand/off/auto switch. There is a switch to stop and start the compressor according to the level of water in the tank.

Irish offices: O.B.C., Ltd., 5 Upper Fitzwilliam St., Dublin; N. A. Spiller, 128 Great Victoria St., Belfast.

Where the 'Contractor' goes

CERTIFIED figures for the "Irish Plumber and Heating Contractor" show a monthly print order of 2,000 copies.

Full details of these latest audited figures, together with a complete circulation break-down, are available on application to the publishers.

Insulations booklet

A NEW BOOKLET on XPS Expanded Polystyrene insulation material is available from Newalls Insulation Company Ltd., Washington, Co. Durham—members of the Turner & Newall Group. Produced by the Foamed Plastics Department of Newalls to a rigid quality specification, XPS has the advantages of low cost, low weight, low conductivity and conductivity and consistent high quality. It is supplied in sheet, pipe, veneer or tile form of various sizes and thicknesses.

It consists of 98% still air trapped within millions of minute cells fused together in each cubic foot of the material. Low moisture absorption ensures insulation efficiency even in damp conditions.

Easily cut, odourless and non irritant, it will support over 2,000 lb. per sq. ft. with little loss in thickness. One cubic foot of XPS weighs only 16 ozs. Its white surface can be coloured with emulsion or gloss paints.

Irish offices: Newalls Insulation Co., Ltd., Rossmere House, Baily, Howth, Co. Dublin, and 200 Agnes St., Belfast.

Paco-Aquator in four sizes

PACO-AQUATOR boilers are manufactured in four sizes—one to suit every type of home. They are oil-fired boilers having a specially designed cylindrical combustion chamber. To this is fitted the PACO oil pressure burner which has been de-

TRADE

TOPICS

signed for the boiler and is manufactured by the makers of the boiler. It is mounted so that it can be swung open for inspection and easy service.

Paco-Aquator also has an additional furnace making it possible for the boiler to be fired with coke, wood, turf, etc. The furnace can also be used for the incineration of household waste.

Irish agents: Patton Engineering Enterprises, 30 St. Anne's Road, Drumcondra, Dublin 9.

RCM introduces diffuser

RCM (Air Distribution) Ltd. have now brought on to the market a new linear type of Ceiling or Sidewall Diffuser which is manufactured from aluminium extrusions in four widths: 3½" and 6½", being one-way Blow Types, with 7" and 14" two-way Blow Types.

The maximum length in one piece is 6 ft. but individual lengths can be readily and truly aligned to give the appearance of continual length.

To allow for ease of fixing from below the ceiling to Plenum Ducts above, the core of the diffuser is removable and easily inserted on to spring type positive fixings after the outer framework has been fixed into position. No fixing screws are visible and if required for fixing to a flush plaster face, the flanges can be omitted.

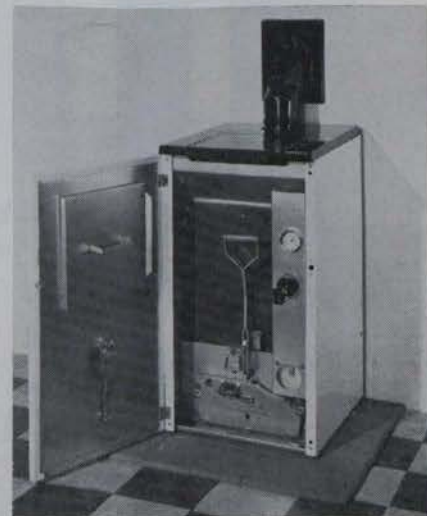
Full technical information is available in RCM Publication No. 213.

Irish agents: Heatovent Supply Co., 5 Upper Fitzwilliam St., Dublin, 2.

Accurate tank contents gauge

THE "ALTI-LEVEL" tank contents gauge for use with oil tanks or other liquids, produced by The British Steam Specialties, Ltd., is automatic in operation, requires no pumping.

Features are: 4" diameter, shank



RADIATION'S new Parkray S.56 thermostatically controlled solid fuel boiler is fed from a large capacity hopper which reduces refuelling to only once, or in very cold weather or less compact installations, twice in 24 hours.

With an output of 33,000 B.t.u./hr. it can be used for full central heating from eight to nine average size radiators or for mixed central heating—from five to six radiators—and domestic hot water systems.

De-ashing the Parkray is made very simple by the specially designed shaker grate. The boiler's other labour saving features include a unique prismatic viewer on the ashpit cover, while the pan itself has a cover that forms a lid as the pan is withdrawn.

screwed ½" BSP and complete with oil resistant washer. It has 270° scale, which facilitates ease of reading at a distance. It can be supplied for tanks ranging from 3' 6" to 8' deep, for fuel oils from 35 secs. to 3,000 secs.

Irish offices: The British Steam Specialties Ltd., 33 Leeson Park, Dublin, and 12 Distillery St., Belfast.

New Velan traps

A NEW SERIES of Velan steam traps on types CS, CSF, S, SF, T, TS, has been developed and is now being produced with more advanced feat

Continued overleaf

Thirty-one



NEW WORLD CUTS THE COST OF HOT WATER

It costs less with a NEW WORLD CIRCULYN gas water heater. Fitted to a well-lagged cylinder it will provide a family of four with all the hot water they need, at between 5/- and 9/- a week (depending on local gas prices). Running costs are reduced still more by fitting an Economy Valve.

It's more adaptable—A NEW WORLD CIRCULYN can be easily connected to your existing storage tank or cylinder as:

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- (2) An auxiliary during the summer when the boiler is out.
- (3) A booster to a solid fuel system whenever there is an extra run on hot water.

In three sizes to suit all types of household for tanks from 20 galls. up to 60 galls. capacity.

NEW WORLD

GAS STORAGE WATER HEATERS



A
RADIATION
PRODUCT

TRADE

TOPICS

from previous page

ures for speedy servicing and maintenance, states the Velan Engineering Co., Ltd. The Velan Universal steam trap represents a great advance in the practice of steam trapping. This trap is unique in that it operates on a heat-pressure principle. A free-floating and rotating ball valve placed on the downstream side of the valve seat is actuated by a multi-regiment finet live element developing forces which are closely related to the saturated steam curve.

This element, ingeniously arranged in the form of a battery, deflects against the line pressure closing the valve with a force which increases in relation to the steam temperature and pressure.

Sole concessionaires: The British Steam Specialties Ltd., 33 Leeson Park, Dublin, and 12 Distillery St., Belfast.

* * *

ISOTAPES, produced by Isopad Ltd., Boreham Wood, Herts., consists of an insulated resistance element fitted to a flexible electrically insulating base forming a complete heating circuit terminating at one end. The material to which the heating element is fitted varies with temperature and duty.

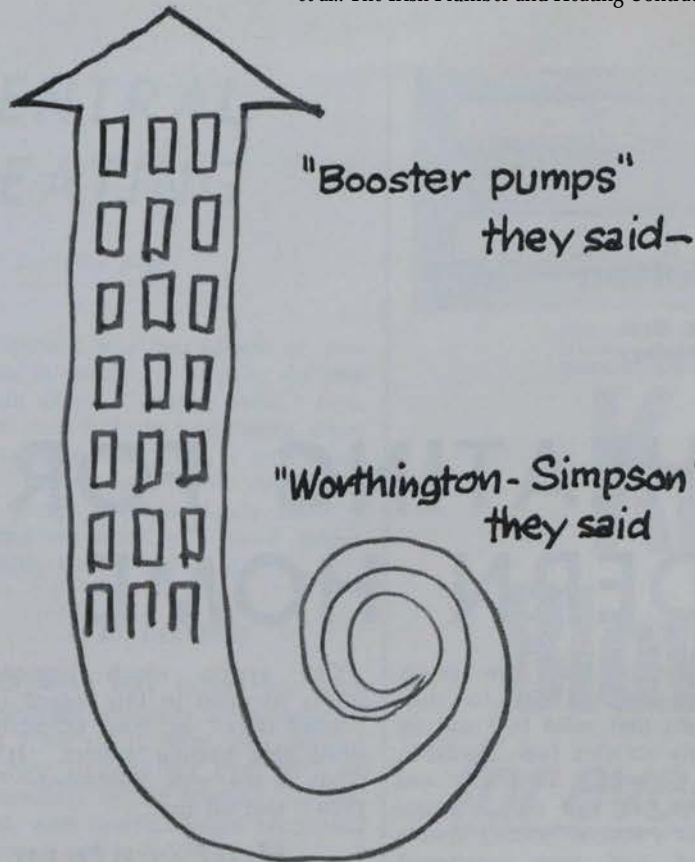
Apart from their flexibility, the great advantage of Isotapes lies, it is claimed, in their ease of application and robust construction. Various types have been developed to deal with different applications and working conditions.

Irish agent: Luke, Martyn & Co., Ltd., 1 Sandyhill Park, Drumbeg, near Belfast.

* * *

A 2 mm. LAYER of soot increases fuel expenses by 15-20 per cent., points out the Oil-Age Boiler Co., Ltd. Their soot vacuum cleaner works according to the cyclone principle without a filter. The fan motor has separate air cooling, thus making it possible to sweep boilers at their working temperatures.

Irish agents: Danish Stoker & Boiler Co., 38 Pearse St., Dublin.



... because they know that there's no substitute for experience. Many installations point to our specialisation in booster pumps for high density buildings and flats. Dependability, ease of installation, and low maintenance are high on the list of reasons why Worthington-Simpson 'Monobloc' and centrifugal pumps are specified. We also have a wide range of pumps for boiler feed, hot water circulation and other services. Full information and literature is available on request.

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SANBRA FYFFE products are approved by the leading Architects, Surveyors, Plumbers, Contractors, Government Departments, Municipal Authorities and Water Works throughout Ireland.

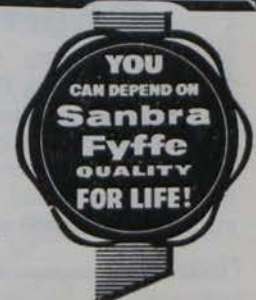
SANBRA FYFFE LIMITED, CONEX WORKS, SANTRY AVENUE, DUBLIN, 9.

Telephone: Dublin 375131 (5 lines).

Telegrams: SANBRA, DUBLIN.

Telex: 5325.

Published by ARROW@TU Dublin, 1963



Thirty-three

the
author

John G. Bolton

Lecturer in Plumbing and Heating at the College of Technology, Bolton Street, Dublin.

CENTRAL HEATING FOR THE MODERN HOME

HAVING regard to the severe weather conditions which we endured during the past two winters, an ever increasing number of people in this country are coming to realise that our traditional way of life, with its emphasis on a large fire in the living-room and semi-arctic conditions elsewhere in the house, is no longer a satisfactory proposition.

The author had the experience recently of looking over a new house built for a returned "Yank." He had specified room temperatures of 70°F. and the heating system was designed to maintain this, but even with all this, after experiencing the damp and rain of last winter, he decided he could not stand our climate, and has regretfully returned to the States to finish his remaining years.

This case is, of course, exceptional, but it does emphasise that to provide comfort conditions, whole-house heating is essential. What do we find, however! The facts show that most houses are heated in a haphazard manner—a coal fire in the living-room, a paraffin heater in the sitting-room, and electric heaters in the bedrooms, all combining to form a costly but uncertain heating arrangement—and still the house is not really warm!

Survey

A recent survey of a group of householders in England produced the following results: Three out of ten thought central heating would be expensive, but when questioned as to their reasons, could only give vague answers. About 40 per cent. of those

questioned had no idea how much central heating would cost to run; many thought that solid fuel and oil were the only suitable fuels available, completely forgetting electricity and gas. About half had only a vague idea of what a central heating system consisted of, and none mentioned warm air as a possible means.

In the final analysis, it was found that less than 10 per cent. had any sort of central heating installed, but over 60 per cent. would like to have it.

This is where we come in! Although the survey is related to English conditions, it is equally applicable to us here, and so every contractor should be able to discuss with clients the relative merits of the various systems available.

Service

THE major oil companies and the larger contractors do provide such a service to the public—the Heating Centre in Dublin being one example. These are the "big boys," however, whereas very often the smaller contractor is approached by a long-standing customer who knows the quality of his work and so wishes him to prepare a scheme, and submit a price for the job.

This is particularly so in provincial areas, and the contractor may be somewhat doubtful as to the correct way of approaching the problem. It is intended, therefore, to discuss in this and subsequent articles the basic principles involved in the design and installation of heating systems for the smaller dwelling.

One system which immediately comes to mind in this regard is the "Small Bore" or, more correctly the small pipe heating system. It certainly is the most publicised—"Mrs. 1970" and all that!

Half century

SMALL bore pipes for heating have, of course, been used for over half a century—principally in church work—witness the Perkins High Pressure System with 1" bore tube—but it was never considered as a method of heating a small house. Next we had the advent of forced circulation with the aid of a pump, but this again presented difficulties in adapting to the smaller dwelling, due mainly to lack of a suitable pump. In those days pumps were usually installed in duplicate as a precaution against failure, were rather noisy in operation, and required constant maintenance to prevent leaking glands and such like troubles.

All these factors combined to make the smaller dwelling a very difficult and uneconomic unit to heat, and it was not until the beginning of the 1950's that the British Coal Utilisation Research Association (BCURA for short), faced by the need to make the best possible use of the solid fuel resources in England, began to develop the small-bore $\frac{1}{2}$ " forced circulation heating system. It is of interest to note, at this point, that the system was originally designed to promote the use of solid fuel. This fact is often overlooked in the spate of publications issued by the various oil companies!

One very important factor in this

CENTRAL HEATING

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development was the advent of new designs in pumps, principally the production of the "canned rotor" type, which cannot leak, and being water lubricated requires little, if any, attention. Again, and most important, these pumps are completely silent—a tremendous boon in a small house, especially during night time.

Suitable

THIS small bore system has been designed primarily for a house of about 1,500 sq. ft. floor area, so that it is very suitable for over 90% of the dwellings in this country. It has, indeed, with careful design been used for houses up to 2,500 sq. ft.

Having decided on the system to be used, the next question to be determined is the amount of heat likely to be required for the dwelling. Taking the house of 1,500 sq. ft. floor area, if full central heating is specified, we can take it that a boiler output of up to 65,000 B.t.u./hr. will be needed, so an independent boiler unit must be installed, but supposing the client does not require this, and is satisfied with partial central heating, well, in this case, it may be possible to use one of the modern high output back boilers. These, although not normally rated, give something in the region of 18,000 to 25,000 B.t.u./hr., depending on the fire.

It is perhaps opportune at this point to make clear the distinction between whole and partial central heating—on the face of it, no explanation seems necessary, but in actual fact most of the complaints about faulty systems hinge on this distinction. Many clients have been led to believe that an open fire with a well designed back boiler (such as are offered in the packaged units) will completely heat a 3/4 bedroom house and in addition provide an abundance of hot water.

Continued overleaf



(TH3) (TH4) Kosangas High Pressure Blow Torch. Wooden handle. Needle control valve, for gas adjustment. Supplied with large or medium burner heads.

Kosangas Blow Torches

for every plumbing job!



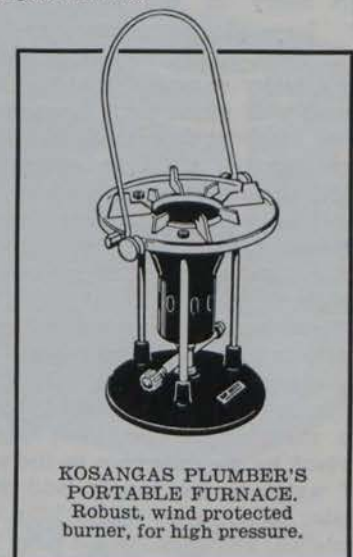
Bullfinch Mark II Blow Torch. New, patented, trigger valve, leak-proof, never needs adjustment. Micrometer by-pass, saves £££'s on gas. Complete range of burners.

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from previous page

NOW, this may possibly be achieved for short periods by stoking up a large fire with a fully opened boiler damper, but, as we well know, this is not likely to be the usual procedure in an ordinary dwellinghouse, so, of course, the whole installation is condemned, whereas, if the position was fully explained to the customer, and instructions given that radiators in unoccupied rooms be shut off when not required, abundant hot water and satisfactory heating of the rooms actually in use would result.

I emphasise this point, because in my experience—corroborated by others in the trade—this is an aspect not fully understood by many customers. In brief, if you want full central heating and a plentiful supply of hot water for the average 3/4 bedroom house, it can only be achieved by fitting an independent boiler of approximately 45/65,000 B.t.u./hr. rating, depending on the design of the house.

Heat Loss Calculations.—So far we have been discussing boiler ratings in general terms, but to-day guesswork methods have no place in heating design, so it is necessary to have some knowledge of heat loss calculations. If it were only a question of heating the air in a room, there would be little difficulty, but when it is considered that as fast as we heat this air, most of it is escaping through the walls, floors, ceilings and windows, etc., the problem becomes more involved.

Heat loss

IN many of our modern houses, large picture windows are fitted, and these, if not double glazed, will be a major source of heat loss. The speed with which heats flows through glass is about four times that of the flow through a simple cavity wall, itself not a very good insulator. The basis on which these heat losses are calculated are known as the "U" factors and will be discussed in a later article.

Some readers may wonder why a pump is necessary—could not a gravity system be installed? Well, perhaps, in many cases it could, but due to the minute circulation pressure caused by the difference in the weight of water in the supply and return main, larger pipes would have to be installed, and these would have to be run on very accurate gradients so as to avoid air-lock.

In the small bore system, on the other hand, we have a much neater appearance, and low heat loss due to the $\frac{1}{2}$ " pipe used in the circuits. Again, levels are not important (air vents are fitted at points likely to collect air) so the pipe can be run in unobtrusive positions. The cost of the pump is in many cases covered by the saving in the cost of pipe and fittings plus the reduced cost of labour.

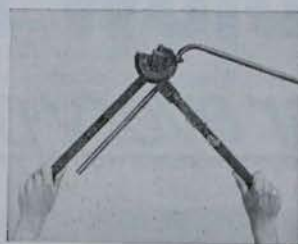
Another big advantage is the fast heating up from cold due to the high velocity of the water flowing through the circuit.

A point of particular importance

to the client is the fact that the system can be installed in an existing dwelling with the minimum of damage to decorations—where pipes have to run under floor boards, notching of the joists will be at a minimum for a $\frac{1}{2}$ " pipe when compared with the $1\frac{1}{4}$ " or so of the gravity system—this, in turn, prevents the risk of weakening floors.

Comparisons, such as those mentioned above, will be of value to the contractor when discussing with his client the pros and cons of the small bore system.

PORTABLE TUBE BENDERS



LIGHTWEIGHT BENDING TOOLS

Types GL. O and GL. Minor

Compact machines to produce good quality sets, compound bends, etc., in non-ferrous tube. Robustly built, they can be carried in tool bag and are particularly suitable for small bore heating and similar types of installation.

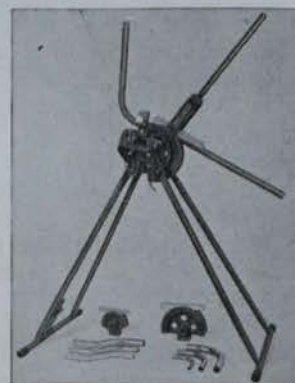
CAPACITY: GL. O— $\frac{1}{8}$ ", $\frac{1}{4}$ " and $\frac{1}{2}$ " dia. copper tube.
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Type RP. 5B

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THOSE WHO OWN IT...



THE CUSTOMER is delighted to discover that such a handsome cistern also has the most discreetly quiet and dependable mechanism she's ever encountered.

...All acclaim the

Shires **LYNX**

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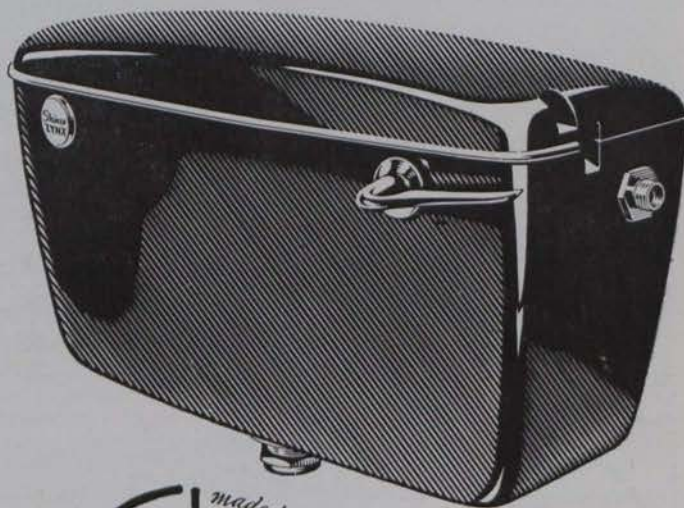
Shires Lynx is today's most popular cistern, for replacements or new installations. Lynx high and low level cisterns are made of black Duranite — tough and durable, non-crazing, non-corrosive. The Kingfisher syphon mechanism gives a powerful flush: made of polythene — non-corrosive, non-ageing and unbreakable — it can be used in hard or soft water areas. It conforms to BSS 1125 and Water Works specifications. Capacities: 2, 2½ and 3 gallons.

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